

IMPORTANT BIRD AND BIODIVERSITY AREAS IN INDIA

Priority sites for Conservation

Revised and updated 2nd Edition Vol. II



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**Second Edition: Revised and Updated
Volume II**

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WEST BENGAL

IN-WB



Singhalila National Park is a fine representative of Montane Wet Tropical Forest, Sub-tropical Broadleaf Forest and also Alpine and Sub-alpine scrub

West Bengal (20° 31'–27° 12' N and 85° 50'–89° 52' E) is bounded on the north by Sikkim and Bhutan, on the east by Assam and Bangladesh, on the south by the Bay of Bengal and on the west by Odisha, Jharkhand, Bihar and Nepal. West Bengal covers a geographical area of 88,752 sq. km, which constitutes about 2.7% of the total land area of the country. The State is divided into 18 administrative districts. The old Bengal (of which West Bengal was a part) was known as Gauda or Vanga in ancient Sanskrit literature. In 1947 when India got Independence from the British, Pakistan's share was called East Pakistan and India's share was called West Bengal. In 1950 the Princely State of Cooch Behar was merged into West Bengal. The former French enclave of Chandranagore was added on October 2, 1954. Under the State Reorganization Act, some parts of Bihar were transferred to Bengal (Mathew 2003).

The State can be divided into two distinct regions: i) the Himalaya and the Sub-Himalaya and their associated forest types in the northern parts; and ii) the thickly-populated Gangetic Plains, merging with the sea in the form of vast, tangled mangroves.

About 70% of the State population is dependent on agriculture. The major crops are paddy, jute, tea, potatoes,

oilseeds, betel-vine, tobacco, wheat, barley and maize.

The climate is generally humid tropical monsoon. It varies from moist-tropical in the southeast to dry tropical in the southwest and from subtropical to temperate in the mountains of the north. The temperature ranges from 0 °C to 45 °C. The mean annual rainfall ranges from 900 mm in the southwest to 6,000 mm in parts of the north.

The total human population of the State is 80.22 million (Census 2001), which is 7.08% of the country's population of which the rural population comprises 72.0% and urban 28%. The tribal population is 5.6% of the State's population. The population density is 904 persons per sq. km (Ministry of Environment and Forest 2001).

Vegetation

There are eight forest types in the State. They are Tropical Semi-evergreen, Tropical Moist Deciduous, Tropical Dry Deciduous, Subtropical Broadleaf Hill, Subtropical Pine, Himalayan Moist Temperate, Montane Wet Temperate, and Littoral and Swamp Forests. The forests are mainly distributed in the north, southwest and southeast. As per the Forest Survey of India report of 2008, the total recorded forest area is 11,879 sq. km, which constitutes 13.4% of the

geographical area of the State and 1.5% of country's forest area. By legal status, reserved forest constitutes 7,054 sq. km, protected forest 3,772 sq. km and unclassed forest 1,053 sq. km (Ministry of Environment and Forest 2008). There is an increase in the forest cover in the districts of Bankura, Jalpaiguri, Malda, Midnapur and Murshidabad. The increase in forest cover is mainly due to plantations and the protection offered to areas under Joint Forest Management (Ministry of Environment and Forest 2008). A decrease in forest cover has been recorded in the district of Uttar Dinajpur in scattered patches near Bangladesh border.

IBAs AND PROTECTED AREAS

There are five national parks and 16 wildlife sanctuaries covering an area of 0.28 million ha, constituting 3.15% of the geographical area of the State (Rodgers *et al.* 2000). The State has two Tiger Reserves namely, Sundarbans and Buxa, and both are identified IBAs. The Sundarbans Biosphere Reserve is one of the 18 Biosphere Reserves of the country. The Sundarbans National Park is also a World Heritage site. All the five national parks are identified as IBAs, namely Buxa National Park, Gorumara National Park, Lava-Neora National Park, Sundarbans National Park and Singhalila National Park. Out of 16 wildlife sanctuaries, three have been identified as IBAs, namely Jaldapara Wildlife Sanctuary, Kulik Bird Sanctuary, and Mahananda Wildlife Sanctuary.

AVIFAUNA

The bird life of West Bengal is rich. About 861 species have been identified (Sen 2014) including some extremely rare ones. Among the Critically Endangered vulture species, White-rumped Vulture *Gyps bengalensis*, Long-billed Vulture *G. indicus* and Slender-billed Vulture *G. tenuirostris* are present in this State. There were earlier reports of White-bellied Heron *Ardea insignis* and Bengal Florican *Houbaropsis bengalensis*, both Critically Endangered, but we do not have any recent record from the state. However, there are some records of the Greater Adjutant *Leptoptilos dubius*, an Endangered species. There are chances of finding Oriental Stork *Ciconia boyciana* which is reported mainly as a winter visitor to the northeast India. Another species worth noting is Spotted or Nordmann's Greenshank *Tringa guttifer*. This Endangered bird is reported from many IBAs in Assam and Odisha (Islam and Rahmani 2004) and unconfirmed reports from Rajasthan, Gujarat, and Calcutta district (BirdLife International 2001).

In West Bengal, 24 out of 57 Vulnerable species listed for India by BirdLife International (2014) are found. For some species, the IBAs and protected areas of West Bengal are important for their survival. Twenty-nine Near Threatened species are also found in the IBAs and non-IBAs of West Bengal.

THREATENED BIRDS OF WEST BENGAL

White-rumped Vulture *Gyps bengalensis*,
Slender-billed Vulture *Gyps tenuirostris* and
Long-billed Vulture *Gyps indicus*
Critically Endangered

These vultures have been upgraded to Critically Endangered category because they have suffered an extremely rapid population decline, particularly across the Indian subcontinent (BirdLife International 2014). The veterinary use of pain-killer drug Diclofenac has been found to be responsible for these massive deaths (Oaks *et al.* 2004). BNHS and RSPB, in collaboration with the West Bengal Forest Department, have started a Vulture Conservation Breeding Centre outside Buxa Tiger Reserve in Jalpaiguri district.

Bengal Florican *Houbaropsis bengalensis*
Critically Endangered

This bustard has a very small, rapidly declining population largely as a result of the widespread loss of its grassland habitat. It therefore qualifies as Critically Endangered (BirdLife International 2014). It has been recorded from Jaldapara Wildlife Sanctuary (Narayan and Rosalind 1990) and possibly from Gorumara National Park. Choudhury (2002) reported from Jaldapara Wildlife Sanctuary and Bhim Chapori, also in West Bengal. There has been no confirmed recent record of this bird in the State.

Lesser Adjutant *Leptoptilos javanicus*
Vulnerable

In West Bengal, it has been reported from the Buxa Tiger Reserve, Farakka Barrage and adjoining areas, Gorumara National Park, Jaldapara Wildlife Sanctuary (Kumar 1998), Kulik Wildlife Sanctuary and Sundarban Biosphere Reserve (Scott 1989).

Pallas's Fish-eagle *Haliaeetus leucoryphus*
Vulnerable

This species is widely distributed from Europe to China, India, Pakistan, Bhutan, Bangladesh and Myanmar. In India it was a widespread breeding species on the lakes and large rivers in the north and northeast of the country but now rare everywhere. In West Bengal, it has been reported from Gorumara NP, Jaldapara WLS (Samant *et al.* 1995; Kumar 1998), Kulik WLS, Mahananda WLS and Sundarban Biosphere Reserve.

Swamp Francolin *Francolinus gularis*
Vulnerable

This Francolin is one of the Vulnerable species and has undergone a rapid population decline because of the degradation of its specialized grassland habitat and trapping (BirdLife International 2001). This bird is found in all the

IBAs of WEST BENGAL		
IBA site codes	IBA site names	IBA criteria
IN-WB-01	Buxa Tiger Reserve (National Park)	A1, A2
IN-WB-02	Farakka Barrage and Adjoining Area	A1, A4i, A4iii
IN-WB-03	Gorumara National Park	A1, A2
IN-WB-04	Jaldapara National Park	A1, A2
IN-WB-05	Kulik (Raiganj) Bird Sanctuary	A1, A4i, A4iii
IN-WB-06	Lava-Neora Valley National Park	A1, A2, A3
IN-WB-07	Mahananda Wildlife Sanctuary	A1, A2, A3
IN-WB-08	Naya Bandh Wetland Complex	A1
IN-WB-09	Singhalila National Park	A1, A2
IN-WB-10	Sundarbans Biosphere Reserve	A1, A4iii

A1= Threatened species; A2 = Restricted Range species; A3= Biome species; A4=Congregatory species

LIST OF THREATENED BIRDS WITH IBA SITE CODES		
CRITICALLY ENDANGERED		
Pink-headed Duck	<i>Rhodonessa caryophyllacea</i>	Extinct?
Baer's Pochard	<i>Aythya baeri</i>	IN-WB-02, 08, 10
White-rumped Vulture	<i>Gyps bengalensis</i>	IN-WB-01, 02, 03, 05, 07, 08
Long-billed Vulture	<i>Gyps indicus</i>	IN-WB-02, 05, 08
Slender-billed Vulture	<i>Gyps tenuirostris</i>	IN-WB-01, 07
Red-headed Vulture	<i>Aegypius calvus</i>	IN-WB-01, 03, 04, 07
Bengal Florican	<i>Houbaropsis bengalensis</i>	Extinct in the state (?)
Spoon-billed Sandpiper	<i>Eurynorhynchus pygmeus</i>	IN-WB-10 (?)
ENDANGERED		
Greater Adjutant	<i>Leptoptilos dubius</i>	IN-WB-10
Egyptian Vulture	<i>Neophron percnopterus</i>	
Masked Finfoot	<i>Heliopais personata</i>	IN-WB-10 (?)
Spotted Greenshank	<i>Tringa guttifer</i>	IN-WB-10 (?)
Black-bellied Tern	<i>Sterna acuticauda</i>	IN-WB-01, 02, 03, 04, 08, 10
VULNERABLE		
Lesser Adjutant	<i>Leptoptilos javanicus</i>	IN-WB-01, 02, 03, 04, 05, 07, 08, 10
Marbled Duck	<i>Marmaronetta angustirostris</i>	
Greater Spotted Eagle	<i>Clanga clanga</i>	IN-WB-03, 08, 09, 10
Indian Spotted Eagle	<i>Aquila hastata</i>	IN-WB-10
Eastern Imperial Eagle	<i>Aquila heliaca</i>	IN-WB-03, 06
Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>	IN-WB-03, 04, 05, 08, 10
Swamp Francolin	<i>Francolinus gularis</i>	IN-WB-01, 04
Chestnut-breasted Hill-partridge	<i>Arborophila mandellii</i>	IN-WB-01, 09
Sarus Crane	<i>Grus antigone</i>	Not in any IBA
Black-necked Crane	<i>Grus nigricollis</i>	IN-WB-01 (Stray record)
Great Knot	<i>Calidris tenuirostris</i>	IN-WB-10
Wood Snipe	<i>Gallinago nemoricola</i>	IN-WB-01, 09
Indian Skimmer	<i>Rynchops albicollis</i>	IN-WB-01, 02
Pale-capped Pigeon	<i>Columba punicea</i>	IN-WB-06
Rufous-necked Hornbill	<i>Aceros nipalensis</i>	IN-WB-01, 06, 07
Grey-sided Thrush	<i>Turdus feae</i>	
White-throated Bushchat	<i>Saxicola insignis</i>	
Jerdon's Babbler	<i>Chrysomma altirostre</i>	IN-WB-01

Slender-billed Babbler	<i>Turdoides longirostris</i>	
Snowy-throated Babbler	<i>Stachyris oglei</i>	IN-WB-03
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>	IN-WB-01, 03, 04, 06, 07 (all old records)
Bristled Grassbird	<i>Chaetornis striatus</i>	IN-WB-01
Grey-crowned Prinia	<i>Prinia cinereocapilla</i>	IN-WB-01
Beautiful Nuthatch	<i>Sitta formosa</i>	IN-WB-01, 06, 09
Yellow Weaver	<i>Ploceus megarhynchus</i>	IN-WB-01, 04 (old records)
NEAR THREATENED		
Oriental Darter	<i>Anhinga melanogaster</i>	IN-WB-01, 02, 03, 04, 07, 08,10
Painted Stork	<i>Mycteria leucocephala</i>	IN-WB- 02, 04, 05, 08,10
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>	IN-WB-01, 10
Black-headed Ibis	<i>Threskiornis melanocephalus</i>	IN-WB-07, 08
Falcated Duck	<i>Anas falcata</i>	
Ferruginous Duck	<i>Aythya nyroca</i>	IN-WB-01, 02, 08, 10
Grey-headed Fish-eagle	<i>Ichthyophaga ichthyaetus</i>	IN-WB-01, 03, 04
Lesser Fish-eagle	<i>Ichthyophaga humilis</i>	IN-WB-01
Cinereous Vulture	<i>Aegypius monachus</i>	IN-WB-01
Laggar Falcon	<i>Falco jugger</i>	
Pallid Harrier	<i>Circus macrourus</i>	IN-WB-01, 07, 08
Satyr Tragopan	<i>Tragopan satyra</i>	IN-WB-06
Great Thick-knee	<i>Esacus recurvirostris</i>	IN-WB- 02, 05, 08, 10
River Lapwing	<i>Vanellus duvaucelii</i>	IN-WB- 02, 05, 08, 10
Asian Dowitcher	<i>Limnodromus semipalmatus</i>	IN-WB-10
Eurasian Curlew	<i>Numenius arquata</i>	IN-WB- 02, 05, 08, 10
River Tern	<i>Sterna aurantia</i>	IN-WB- 02, 05, 08, 10
Alexandrine Parakeet	<i>Psittacula eupatria</i>	IN-WB-01, 02, 03, 04, 05, 07, 08, 09, 10
Blossom-headed Parakeet	<i>Psittacula roseate</i>	IN-WB-01, 02, 03, 04, 05, 07, 08, 09, 10
Red-breasted Parakeet	<i>Psittacula alexandri</i>	IN-WB-01, 02, 03, 04, 05, 07, 08, 09, 10
Ward's Trogon	<i>Harpactes wardi</i>	IN-WB-06
Brown-winged Kingfisher	<i>Pelargopsis amauroptera</i>	IN-WB-10
Blyth's Kingfisher	<i>Alcedo hercules</i>	IN-WB-06, 07
Great Pied Hornbill	<i>Buceros bicornis</i>	IN-WB-01, 03, 04, 07
Mangrove Pitta	<i>Pitta megarhyncha</i>	IN-WB-10
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>	IN-WB-06, 09
Firethroat	<i>Luscinia pectardens</i>	
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>	IN-WB-01
Rufous-rumped Grassbird	<i>Graminicola bengalensis</i>	IN-WB-01, 04

terai areas up to Assam, and from West Bengal it has been reported from the Buxa TR, Gorumara NP, Mahananda WLS, Jaldapara WLS (Scott 1989) and Sundarban Biosphere Reserve (Mukherjee 1977). Many of these records are quite old and recent surveys reveal that the species has become extremely uncommon in the state.

Chestnut-breasted Hill-partridge

Arborophila mandellii

Vulnerable

It is inferred from the limited available data that

this partridge has a small population which is declining and becoming increasingly fragmented. It is therefore classified as Vulnerable. Results of more extensive surveys will require a reassessment, and possible downgrading of its threat status (BirdLife International 2014). It is evenly distributed in West Bengal wherever suitable habitat remains (R. Kaul *pers. comm.* 2003, Khaling *et al.* 1998). Khaling (1999) has indicated its presence in Darjeeling district, especially Singhalila National Park where it was also reported by Saha *et al.* (2013)



DRITIMAN MUKHERJEE

Sundarbans got the name from the mangrove plant locally known as Sundari *Heritiera minor*. Sajinakhali Wildlife Sanctuary lies within the buffer zone. More than 360 bird species have been listed from Sundarbans

Wood Snipe *Gallinago nemoricola* Vulnerable

This secretive snipe has a small, declining population, as a result of habitat loss and localized hunting in its wintering grounds. It therefore qualifies as Vulnerable (BirdLife International 2014). This Snipe breeds in the Himalayas and has been recorded from Himachal Pradesh to Assam, Arunachal Pradesh and Manipur. From West Bengal, it has been reported from the Buxa Tiger Reserve (Anon. 1993) and the Singhalila National Park.

Pale-capped Pigeon *Columba punicea* Vulnerable

This pigeon has a small, declining, severely fragmented population owing to destruction of its evergreen forest habitat and hunting. It therefore qualifies as Vulnerable (BirdLife International 2014). It is a widely distributed bird in the northeastern states. In West Bengal it has been reported only from the Lava-Neora Valley National Park.

Rufous-necked Hornbill *Aceros nipalensis* Vulnerable

This large hornbill qualifies as Vulnerable because it has a small, rapidly declining population as a result of the destruction of evergreen forest and hunting (BirdLife International 2014). In India, it has been reported from West

Bengal, Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, and possibly also from Nagaland and Sikkim. In West Bengal, it has been reported from the Buxa TR (Allen *et al.* 1996), Mahananda WLS (Ghose *et al.* 2006), Lava-Neora Valley NP and few reserve forests.

Rusty-bellied Shortwing *Brachypteryx hypertyhra* Near Threatened

This species has a small, declining population which qualifies it as Vulnerable. Its decline is thought to be a result of forest clearance and degradation (BirdLife International 2014). This Shortwing is endemic to the Eastern Himalayan Endemic Bird Areas, especially in West Bengal (Darjeeling, Haldibari, Mangpu, Tonghlu) to extreme western Arunachal Pradesh (Mehao WLS) (Stattersfield *et al.* 1998; BirdLife International 2001). It has also been reported from the Lava-Neora Valley NP (Mauro & Vercruysse 2000) and the Singhalila NP.

Jerdon's Babbler *Chrysomma altirostre* Vulnerable

The small population of this species is inferred to be rapidly declining as a result of the extensive loss of its tall, wet grassland habitat, primarily due to drainage and conversion to cultivation. It therefore qualifies as Vulnerable



Mahananda Wildlife Sanctuary on the west bank of Teesta river protects the lower catchment of this important river

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Chestnut-breasted Hill-partridge	<i>Arborophila mandellii</i>	IN-WB-01, 09
Ward's Trogon	<i>Harpactes wardi</i>	IN-WB-06
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>	IN-WB-06, 07
Snowy-throated Babbler	<i>Stachyris oglei</i>	IN-WB-03
Hoary-throated Barwing	<i>Actinodura nipalensis</i>	IN-WB-01
Grey Sibia	<i>Heterophasia gracilis</i>	IN-WB-09
White-naped Yuhina	<i>Yuhina bakeri</i>	IN-WB-01
Black-browed Warbler (Yellow-vented Leaf-warbler)	<i>Phylloscopus cantator</i>	IN-WB-01

ENDEMIC BIRD AREA 131: ASSAM PLAINS

Manipur Bush-quail	<i>Perdica manipurensis</i>	IN-WB-01 (old record)
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>	IN-WB-01, 03, 06, 07 (old records)

(BirdLife International 2001). This is one of the least-studied birds which is distributed from the Indus Valley of Pakistan to the plains of Brahmaputra Valley and the *terai* of Nepal. From West Bengal, it has been reported from Buxa TR and Mahananda WLS.

Slender-billed Babbler *Turdoides longirostris*
Vulnerable

This elusive species is inferred to have a small, rapidly declining population because of the extensive destruction and degradation of its tall grassland habitats. It therefore qualifies as Vulnerable (BirdLife International 2001). This Babbler was reportedly common in Hasimara (Inglis 1951-1969) in northern West Bengal, and it has also been

reported from the Jaldapara Wildlife Sanctuary (BirdLife International 2001).

Black-breasted Parrotbill *Paradoxornis flavirostris*
Vulnerable

This tall grassland specialist is inferred to have a small, rapidly declining population as a result of the extensive loss and degradation of grasslands. It therefore qualifies as Vulnerable (BirdLife International 2001). This Parrotbill has been recorded in the northeastern plains and neighbouring foothills of India, from West Bengal through Assam to Arunachal Pradesh and northern Bangladesh, with possible records from Nepal, Sikkim and Bangladesh (BirdLife International 2001). In

West Bengal it was reported from the Buxa TR, Gorumara NP and Jaldapara WLS but we do not have any recent record.

Beautiful Nuthatch *Sitta formosa*

Vulnerable

This nuthatch has a small, declining, severely fragmented population as a result of the loss, degradation and fragmentation of evergreen and semi-evergreen forest. It therefore qualifies as Vulnerable (BirdLife International 2001). In West Bengal it has been reported from the BuxaTR (Allen *et al.* 1996), Lava-Neora Valley NP and Singhalila NP.

Yellow Weaver *Ploceus megarhynchus*

Vulnerable

This species has a small, rapidly declining, severely fragmented population as a result of the loss and degradation of *terai* grasslands, principally through conversion to agriculture and overgrazing. These factors qualify it as Vulnerable (BirdLife International 2001). From West Bengal, the bird species was reported from the Buxa Tiger Reserve (Anon.1993) and as many as 65 individuals were reported from the Jaldapara Wildlife Sanctuary (BirdLife International 2001, Turin *et al.* 1987). We do not have latest records.

RESTRICTED RANGE SPECIES

The northern parts of West Bengal, especially Darjeeling and the valleys of Lava and Neora fall under the Eastern Himalaya Endemic Bird Area 130, while the remaining parts of the northern West Bengal lie under the Assam Plains Endemic Bird Areas 131, identified by Stattersfield *et al.* (1998). There are 21 restricted range species in the Eastern Himalaya EBA, out of which eight are found in West Bengal. Some of them are Chestnut-breasted or Red-breasted Hill-Partridge *Arborophila mandellii* (Singhalila National Park), Rusty-bellied Shortwing *Brachypteryx hyperythra* (Lava-Neora Valley National Park, Mahananda Wildlife Sanctuary, Singhalila National Park), Snowy-throated Babbler or Austen's Babbler *Stachyris oglei* (Gorumara National Park), Grey Sibia *Heterophasia gracilis* (Singhalila National Park). Similarly in the Assam plains, there are three restricted range species and, of these, Black-breasted Parrotbill *Paradoxornis flavirostris* was found in the IBAs (Buxa, Gorumara, Jaldapara, Lava-Neora Valley, Mahananda). There are historical records of the Manipur Bush Quail *Perdicula manipurensis* from areas close to the Torsa river and Alipur Duar (BirdLife International 2001).

BIOME RESTRICTED ASSEMBLAGES

West Bengal has five Biomes, namely, Biome7 (Sino-Himalayan Temperate Forest), Biome 8 (Sino-Himalayan



DHIRTIMAN MUKHERJEE

During the last 15-20 years the forest department of West Bengal has zealously protected the Indian One-horned Rhinoceros as a result of which its population has shown a remarkable increase in Jaldapara, Gorumara and Buxa

Subtropical Forest), Biome 9 (Indo-Chinese Tropical Moist Forest), Biome11 (Indo-Malayan Tropical Dry Zone) and Biome12 (Indo Gangetic Plain). These five biomes have different coverage in the State. The north of Siliguri, the Lava-Neora Valley NP and Singhalila NP fall under Biome 7, Biome 8 and Biome 9 because these areas have altitudes between 1,000 to 3,600 m and the main habitats are Broadleaf Evergreen Forest, Broadleaf Deciduous, Mixed Broadleaf-Coniferous and Coniferous Forests, Montane Grassland, Semi-evergreen Rain Forest and Moist Deciduous Forest.

BirdLife International (undated) has listed 112 bird species under Biome 7, of which 88 have been found in West Bengal. Similarly, Biome 8 has 95 species, out of which 63 have been reported from the State. Biome 9 is represented by 11 out of 19 species, and Biome11 of this State has 38 out of 59 bird species listed by BirdLife International (undated). Some parts of West Bengal lie in the Indo-Gangetic Plains (Biome 12) where 13 species are considered as representative of biome assemblage. Based on the checklist available to us, six species of this biome have been reported, some with old records. They are Swamp Francolin *Francolinus gularis*, Bengal Florican *Houbaropsis bengalensis*, Striated Babbler *Turdoides earlei*, Bristled Grassbird *Chaetornis striatus*, Black-breasted Weaver *Ploceus benghalensis* and Yellow Weaver *Ploceus megarhynchus*.

Some of the IBAs which come under Biome12 have large congregations of birds, e.g. Farrakka Barrage and Kulik

Wildlife Sanctuary, where more than 20,000 waterbirds congregate.

Some new records from West Bengal after 2004

Jouanin's Petrel *Bulweria fallax*

A single bird was spotted by Prasad (2013) near Dobanki, Sundarban, West Bengal. This is the first record from the east coast. There are many records of this bird from the western coast of India (see Rahmani 2012).

Short-tailed Shearwater *Puffinus tenuirostris*

Giri *et al.* (2013) photographed two dark birds on the River Muri Ganga, a distributary of the River Hooghly. Later those birds were identified as Short-tailed Shearwater. This is the first record of this bird from India.

Mangrove Pitta *Pitta megarhyncha*

Vulnerable

This scarce species is restricted to a highly specialized and restricted habitat, and is therefore likely to have a moderately small global population. It is also suspected to be in moderately rapid decline as a result of habitat loss and degradation. Hence it is a Near Threatened species (BirdLife International 2014). According to Rasmussen & Anderton (2012) this bird is restricted to the coast of Bangladesh. However there was one unconfirmed record from Sundarbans in 1997 but there was no photographic evidence. Chatterjee



DHRTIMAN MUKHERJEE

The Vulnerable Roufous-necked Hornbill is seen in Mahananda and well protected reserve forests such as Latpanchar



DHRIITIMAN MUKHERJEE

Satyr Tragopan is the iconic species of Singhalila National Park

(2013) rescued one bird from a local fisherman in Sundarbans which is the first confirmed record for India. More than 60 pairs were found in Bhitarkanika NP in Odisha (Rahmani and Nair 2015), so it is likely that it is much more common in Indian Sundarbans. Detailed surveys are required.

Fea's Thrush or Grey-sided Thrush *Turdus feae*
Vulnerable

Prasad (2005) reported a single bird from Lava in West Bengal. BirdLife International (2014) has recognized this species as Vulnerable because it has a small range, as well as a declining population as a result of deforestation in its breeding and wintering grounds.

Fieldfare *Turdus pilaris*

The only specimen of this bird from India is from Saharanpur, Uttar Pradesh by Dr Jameson which he presented to the Indian Museum, which was later transferred to the British Museum (see Ali and Ripley 1987 for comment on the authenticity of the locality). In 2011 a thrush-like bird was seen and photographed in Darjeeling district of West Bengal, which was later identified as Fieldfare. This was the first photographic evidence of this species from the Indian subcontinent (Banerjee & Inskipp 2013).

Firethroat *Luscinia pectardens*
Near Threatened

Firethroat is a vagrant or winter visitor to Meghalaya; sight records are available from NE Arunachal and NE Bangladesh (Rasmussen & Anderton 2012). This species is

very poorly known with no recent records from the wintering grounds, and all the recent breeding records originating from just one site. It has probably declined within its range and is suspected to have a moderately small population. Therefore, it is currently considered Near Threatened (BirdLife International 2014). In March 2012, a group of birders saw an unusual bird in Shanpurkar, West Bengal. The photographs confirmed that the bird was Firethroat. In April 2012, the same was observed in breeding plumage as well. This is a first record from West Bengal (Das 2013).

Rufous-throated Wren-babbler *Spelaeornis caudatus*
Near Threatened

Although this species has been recorded earlier from Sikkim and Darjeeling, it was reported for the first time from Buxa Tiger Reserve by Rahut (2013). This species has a restricted global range and may have a moderately small population, which is likely to be declining as a result of habitat loss (BirdLife International 2014).

Asian Stubtail (Stub-tailed Bush-warbler)
Urosphena squameiceps

It is a small, short-tailed, Old World warbler that breeds in northeastern Asia and winters from southern China to northern Southeast Asia, including the south Chin Hills and western Myanmar. In November 2013, this bird was seen moving and foraging on the ground in Rabindra Sarobar, Kolkata. This is the first record from India and probably the second photographic record from the Indian subcontinent (Das 2014).



Black-capped Kingfisher



Collared Kingfisher



Brown-winged Kingfisher



White-throated Kingfisher



Common Kingfisher



Pied Kingfisher

Out of the twelve Kingfisher species of India nine are found in Sundarban

OTHER KEY FAUNA

West Bengal also records nesting of four species of marine turtles namely Olive Ridley Sea Turtle *Lepidochelys olivacea* (Vulnerable), Green Turtle *Chelonia mydas*, Hawksbill Sea Turtle *Eretmochelys imbricate* (Critically Endangered) and Loggerhead Sea Turtles *Caretta caretta* (Bhadury *et al.* 2013).

West Bengal is famous for its Great Indian One-horned Rhinoceros populations in Jaldapara, Buxa and Gorumara. They are strictly protected by the Forest Department with very few poaching cases. Unfortunately, the Asiatic Elephant *Elephas maximus* is not so lucky, and few deaths occur every year due to poaching and rail accidents.

Mammal diversity in West Bengal includes Western Assamese Macaque *Macaca assamensis pelops*, Terai Gray Langur *Semnopithecus hector*, Large Indian Civet *Viverra zibetha zibetha*, Scaly Ant-eater or Indian Pangolin *Manis crassicaudata*, Jungle Cat *Felis chaus affinis*, Leopard Cat *Prionailurus bengalensis horsfieldi*, Fishing Cat *Prionailurus viverrinus viverrinus* and Marbled Cat *Pardofelis marmorata charltoni*.

THREATS AND CONSERVATION ISSUES

Most of the IBAs have tremendous anthropogenic pressures. To overcome these threats, the Forest Department of West Bengal has started a Participatory Forest Management System under its Forest Resources Management Policy, involving people living in and around the reserves.

Timber smuggling is a big problem and occurs from time to time despite strict action. The Indian Railways plan to convert the existing metre-gauge railway track between Siliguri and Guwahati via Alipurduar and Cooch Behar in North Bengal into a broad-gauge line. This will involve cutting down large number of trees. This broad gauge line will also form an effective barrier for wildlife movement. An increasing number of faster trains would mean more death to wildlife, especially the Asian Elephant *Elephas maximus*. Crop damage by elephants is one of the major problems. The Forest Department, under Project Elephant, has enclosed many settlements and villages by electric fences but maintenance of the fence is not easy.

Overfishing (unsustainable harvesting of fish) is a common problem in the Indo-Gangetic areas. Local people also kill waterbirds, especially during winter months when there are large congregations of waterbirds. In the Singhalila National Park, two ethnic groups predominate: the Nepalese and the Sherpas. They are completely dependent on the Park's forests for firewood, fodder and to some extent for timber, which they use for construction.

Beach tourism is one of the major problems for the sea turtles. Developmental activities too are seriously affecting their nesting population. Apart from this, sea walls, dykes

and embankments which are erected to avoid soil erosion are also a major threat to these sea turtles.

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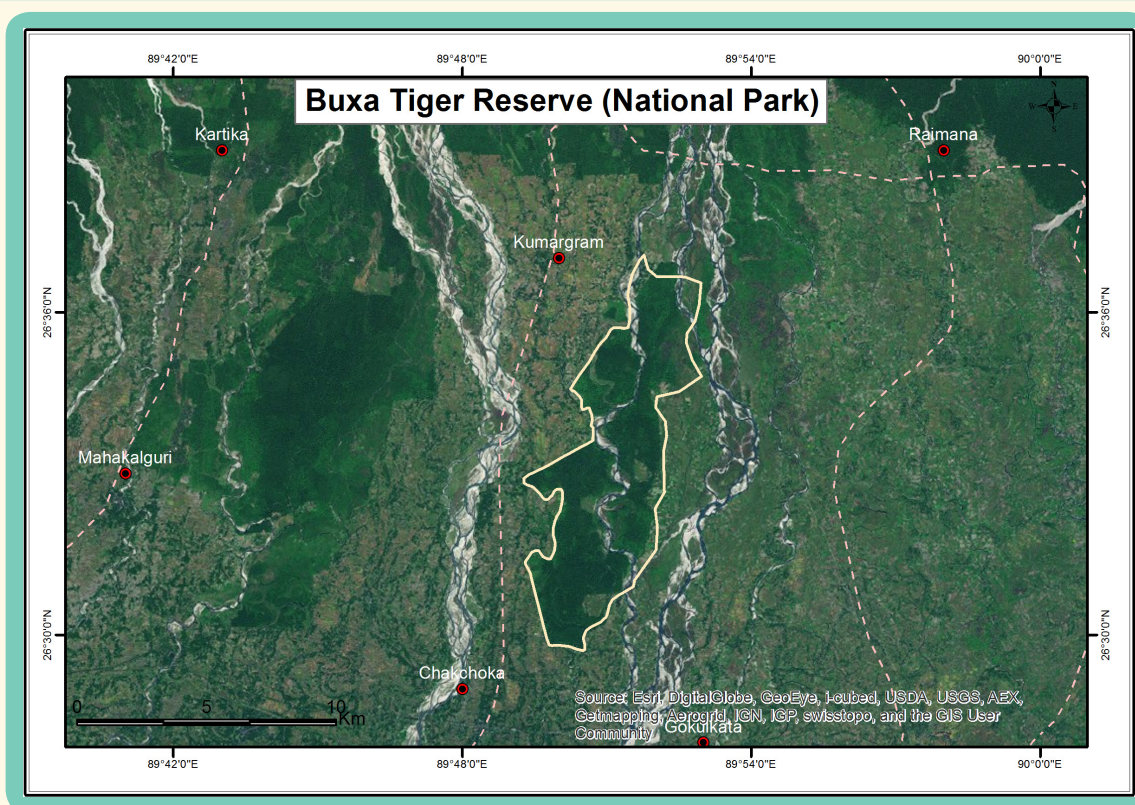
BUXA TIGER RESERVE

WB-01

IBA Site Code	: IN-WB-01	Rainfall	: 4,100 mm
State	: West Bengal	Temperature	: 5 °C to 35 °C
District	: Alipurduar	Biogeographic Zone	: Gangetic Plain
Coordinates	: 26° 40' 30" N, 89° 44' to 30' E	Habitats	: Riverine Vegetation, Tropical Dry
Ownership	: State		Deciduous Forest, Tropical Dry
Area	: 76,087 ha		Evergreen Forest,
Altitude	: 152-1,800 m msl		Tropical Grassland

IBA CRITERIA: A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalayas; Endemic Bird Area 131: Assam Plains)

PROTECTION STATUS: Tiger Reserve, established in April 1983. Includes Buxa Sanctuary and Buxa National Park.



GENERAL DESCRIPTION

The Buxa Tiger Reserve is located in the northern part of Alipurduar district. It is about 180 km from the city of Jalpaiguri and 7 km from the district headquarters at Alipurduar. The northern boundary of the Reserve lies along the international border with Bhutan. The eastern side of the Reserve forms the interstate boundary with Assam, demarcated by the River Sankosh. The western and southern sides are bounded by tea gardens and agricultural fields. The core area is about 38,500 ha, which comprises 26,000 ha area of the Buxa Sanctuary and 11,700 ha area of the Buxa National Park. The buffer zone comprises 37,500 ha.

The Buxa Tiger Reserve (BTR) is located at the meeting ground of three major biogeographical provinces (Rodgers and

Panwar 1988), namely the Lower Gangetic Plains, Central Himalayas and the Brahmaputra Valley. The Reserve has immense ecological and geomorphological significance. It consists of Himalayan formations of Darjeeling gneiss at an altitude of 1,800 m and the Great Boundary Fall (Godawans) lies just south of the Reserve, followed by the Siwalik Hills. Most of the area of the Reserve lies on the plains. Only the northern tracts are hilly. Many rivers and streams intersect the Reserve, the important ones being the Rydak, Jainty, Bala and Dima. Every year, flash floods cause widespread damage to forest vegetation during the monsoon.

The Buxa Tiger Reserve was brought under Project Tiger in 1983 and became India's fifteenth Tiger Reserve.

The Buxa Tiger Reserve has a rich floral diversity.

It is mainly Moist Tropical Forest and has been sub-divided into eight sub-types (Champion and Seth (1968): Sal Forest, Moist Mixed/Dry Mixed Forest, Wet Mixed Forest, Semi-evergreen Forest, Evergreen Forest, Hill Forest, Savannah Forest and Riverine Forest (Forest Department Working Plan). The most common tree species which is of great economic and ecological importance is Sal *Shorea robusta*. In areas adjoining rivers, *Albizia lebbek*, *Dalbergia sissoo* and *Acacia catechu* are the most common species, while on the hills are *Morus laevigata*, *Ailanthus grandis*, *Zizyphus* sp., *Careya arborea* and *Butea monosperma*. The Savannah Forests are characterized by tropical trees such as *Careya arborea*, *Dillenia pentagyna* and *Syzygium cumini*.

CRITICALLY ENDANGERED

White-rumped Vulture	<i>Gyps bengalensis</i>
Slender-billed Vulture	<i>Gyps tenuirostris</i>
Red-headed Vulture	<i>Aegypius calvus</i>

ENDANGERED

Black-bellied Tern	<i>Sterna acuticauda</i>
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VULNERABLE

Lesser Adjutant	<i>Leptoptilos javanicus</i>
Swamp Francolin (old record)	<i>Francolinus gularis</i>
Chestnut-breasted Partridge	<i>Arborophila mandellii</i>
Black-necked Crane (Stray)	<i>Grus nigricollis</i>
Wood Snipe (old record)	<i>Gallinago nemoricola</i>
Indian Skimmer (?)	<i>Rynchops albicollis</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Jerdon's Babbler	<i>Chrysomma altirostre</i>
Grey-crowned Prinia	<i>Prinia cinereocapilla</i>
Bristled Grassbird	<i>Chaetornis striatus</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Yellow Weaver	<i>Ploceus megarhynchus</i>

NEAR THREATENED

Oriental Darter	<i>Anhinga melanogaster</i>
Ferruginous Duck	<i>Aythya nyroca</i>
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>
Lesser Fish-eagle	<i>Ichthyophaga humilis</i>
Cinereous Vulture	<i>Aegypius monachus</i>
Pallid Harrier	<i>Circus macrourus</i>
River Lapwing	<i>Vanellus duvaucelii</i>
Great Pied Hornbill	<i>Buceros bicornis</i>
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>
Rufous-rumped Grassbird	<i>Graminicola bengalensis</i>
Alexandrine Parakeet	<i>Psittacula eupatria</i>
Red-breasted Parakeet	<i>Psittacula alexandri</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYAS

Chestnut-breasted Partridge	<i>Arborophila mandellii</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>

ENDEMIC BIRD AREA 131: ASSAM PLAINS

Manipur Bush-quail (Old record)	<i>Perdica manipurensis</i>
Black-breasted Parrotbill (old record)	<i>Paradoxornis flavirostris</i>

AVIFAUNA

More than 227 bird species were reported from this IBA site by Allen *et al.* (1996). But, if we include the birds seen earlier by Inglis *et al.* (1918-1920), Stevens (1923-1925), Inglis (1952-69), Law (1953) and Sanyal (1995), the total comes to 359 species for the IBA. During a one-year BNHS study, 221 species were sighted by Prakash *et al.* (2001). However, an up-to-date checklist of the site is not available. Detailed checklist maintained by Sumit Sen of 'Duars including Buxa' totals up to 627 species, excluding ten species that he has considered as out-of-range records.

Sumit Sen's checklist includes presumably locally extinct species such as Grey Francolin *Francolinus pondicerianus*, Swamp Francolin *F. gularis*, Green Peafowl *Pavo muticus*, Lesser Florican *Sypheotides indicus*, Sociable Lapwing *Vanellus gregarious*, Greater Adjutant *Leptoptilos dubius*, Indian Skimmer *Rynchops albicollis* and Grear White Pelican *Palecanus onocrotalus*.

The Greater Adjutant *Leptoptilos dubius*, an Endangered species, was earlier seen by Inglis *et al.* (1918-1920) but not by Allen *et al.* (1996) or Prakash *et al.* (2001). Similarly, the following species were not sighted in recent surveys: Manipur Bush-quail *Perdica manipurensis*, Pallas's Fish Eagle *Haliaeetus leucoryphus*, Bengal Florican *Houbaropsis bengalensis*, Lesser Florican *Sypheotides indica*, White-bellied Heron *Ardea insignis*, Wood Snipe *Gallinago nemoricola*, Jerdon's Babbler *Chrysomma altirostre* and Yellow Weaver *Ploceus megarhynchus*. However, Choudhury (2010) states that the Critically Endangered White-bellied Heron might still occur occasionally in the Rydak and Sankosh rivers.

A part of the Buxa Tiger Reserve lies in the Eastern Himalayas Endemic Bird Area (EBA 130) where Stattersfield *et al.* (1998) have listed 21 restricted range species. Chestnut-breasted Partridge *Arborophila mandelli*, Yellow-vented Warbler *Phylloscopus cantator*, Hoary-throated Barwing *Actinodura nipalensis*, Rufous-throated Wren-babbler *Spelaornis caudatus* and White-naped Yuhina *Yuhina bakeri* are found in the higher reaches of Buxa.

Most parts of Buxa are plains and would come under the Assam Plains Endemic Bird Area (EBA 131) where three species are considered restricted range (Stattersfield *et al.* 1998). The Black-breasted Parrotbill *Paradoxornis flavirostris* was earlier reported from this area. Earlier even the Manipur Bush Quail was found at the foothills. As described by Allen *et al.* (1997), the type specimens were procured in Goalpara. Primrose has seen this bird not far from the Torsa and Shebbeare also believes he has seen it. There is a ragged skin in the British Museum said to have been procured in the Bhutan Duars. This is evidently the bird mentioned by Thornhill, which he shot at Alipurduar (Inglis *et al.* 1918-1920). Both the species are no more found in this IBA mainly due to the destruction of their habitat.



DHRITIMAN MUKHERJEE

The Buxa Tiger Reserves is located at the meeting ground of three major biogeographical provinces, namely the Lower Gangetic Plains, Central Himalaya and the Brahmaputra Valley. It is also located at the tri-junction of West Bengal, Assam and Bhutan. It has 16 Globally Threatened bird species and 12 Near Threatened species

Similar is the fate of the third restricted range species, the Marsh Babbler *Pellorneum palustre* that also depends on reedbeds and tall grasslands with scrub alongside swamp and river.

Destruction of terai grasslands habitat has resulted in the local extinction of Swamp Francolin *Francolinus gularis* and Jerdon's Babbler *Chrysomma alterostre*, two Red List species. The Indian Skimmer *Rynchops albicollis* may still occasionally occur in the Sankosh river.

The site is situated in the transition zone between Biome-8 and Biome-12. Therefore, bird species representing Sino-Himalayan Subtropical Forest and Indo-Gangetic Plains are sighted in the Reserve. Owing to a wide distribution of the bird species of Biome-11 (Indo-Malayan Tropical Dry Zone), many birds from this biome are also found in this IBA site. In winter, some species from Biome-5 (Eurasian High Montane Alpine and Tibetan) and Biome-7 (Sino-Himalayan Temperate Forests) are also reported from this IBA site. Altogether, this site has avian fauna from five biomes.

Prakash *et al.* (2001) recorded 32 species of raptors, including the two Critically Endangered *Gyps* vultures. Allen *et al.* (1996) report five species of hornbills: (Indian Grey *Ocyercos birostris*, Oriental Pied *Anthracoceros albirostris*, Great Pied *Buceros bicornis*, Rufous-necked *Aceros nipalensis* and Wreathed *Aceros undulatus*). Some

species of conservation interest seen by them are: Chestnut-breasted Partridge *Arborophila mandellii* (5 individuals), Rufous-necked Hornbill (one pair), Beautiful Nuthatch *Sitta formosa* (2-4 birds), Long-billed Wren-babbler *Rimator malacoptilus* (one pair), Black-headed Shrike-babbler *Pteruthius rufiventer* (small numbers), Yellow-throated Fulvetta *Alcippe cinerea* (small party), White-naped Yuhina *Yuhina bakeri* (small flocks) and Greater Rufous-headed Parrotbill *Paradoxornis ruficeps* (flocks of >30).

Rahut (2013) photographed a Rufous-throated Wren-babbler *Spelaeornis caudatus* on the hills of the Buxa Tiger Reserve. BirdLife International (2014) classifies this bird as Near Threatened as it has a restricted global range and may have a moderately small population, which is likely to be declining as a result of habitat loss.

A small nesting population (about 15 birds) of White-rumped Vulture *Gyps indicus* was observed in the Eastern ranges of Buxa TR till 2008 that is completely lost now (Sachin Ranade, *in litt.* 2014). Himalayan Griffon *Gyps himalayensis* are regular winter visitors while Slender-billed *Gyps tenuirostris* and Red-headed *Aegypius calvus* vultures are occasional visitors to the area. Cinereous Vulture *Aegypius monachus* is also seen occasionally.

Thirteen species belonging to the Vulnerable category and 11 belonging to the Near Threatened category are found in Buxa, some in significant numbers.

OTHER KEY FAUNA

As the name indicates, Buxa is famous for its population of Tiger *Panthera tigris*. According to official records there were 32 Tigers in 1997 in the Reserve (Jain 2001). Buxa is an essential forest corridor for Tigers and Asian Elephants *Elephas maximus* moving between the forests of northwest Assam and southern Bhutan (Rodgers and Panwar 1988). Other large vertebrates found here are the Leopard *Panthera pardus*, Gaur *Bos gaurus*, Sambar *Cervus unicolor*, Hog Deer *Axis porcinus* and Wild Boar *Sus scrofa*. According to Sachin Ranade (*in litt.* 2014) the Barking Deer *Muntiacus muntjack*, Asiatic Black Bear *Ursus thibetanus*, Wild Dog *Cuon alpinus* and Clouded Leopard *Neofelis nebulosa* have been added to the list.

According to Jain (2001), there are 73 species of mammals, 76 species of reptiles and 5 species of amphibians. This government document also claims 390 species of birds from this Reserve.

LAND USE

- Nature conservation and education

THREATS AND CONSERVATION ISSUES

- Grazing
- Poaching
- Fuel wood collection
- Fire

This small reserve forest is under tremendous anthropogenic pressure, with nearly 0.2 million people living in the vicinity, along with their 12,500 livestock. To overcome these threats, the Forest Department of West Bengal has started a Participatory Forest Management System, involving people living in and around the Reserve, under its Forest Resources Management Policy. A World Bank-supported Ecodevelopment Project has been implemented in the Reserve to reduce the dependency of local people on the natural resources of the Reserve.

Ban on the lifting of boulders from the rivers is a contentious issue and needs immediate resolution so the local people are not affected and river ecology is not disturbed.

Timber smuggling is a big problem and occurs from time to time despite strict action. The Indian Railways plan to convert the existing metre-gauge railway track between Siliguri and Guwahati via Alipurduar and Koch Bihar in North Bengal into broad gauge line. This will involve cutting a large number of trees and also formation of a more effective barrier for wildlife movement. An increasing number of faster trains would mean more death to wildlife, especially the Asian Elephant.

Crop damage by elephants is one of the major problems. The Forest Department, under Project Elephant, has enclosed many settlements and villages by electric fences but maintenance of the fence is not easy.

The Government of West Bengal has prepared a plan to rehabilitate some of the villages that are deep inside the Park by giving them agricultural land and compensation.

A Vulture Conservation Breeding Centre of BNHS, Royal Society for the Protection of Birds (UK) and West Bengal Forest Department has been established outside the Park to breed and release White-backed and Slender-billed Vultures.

KEY CONTRIBUTOR

IBA Team, Sachin Ranade, Biswapriya Rahut

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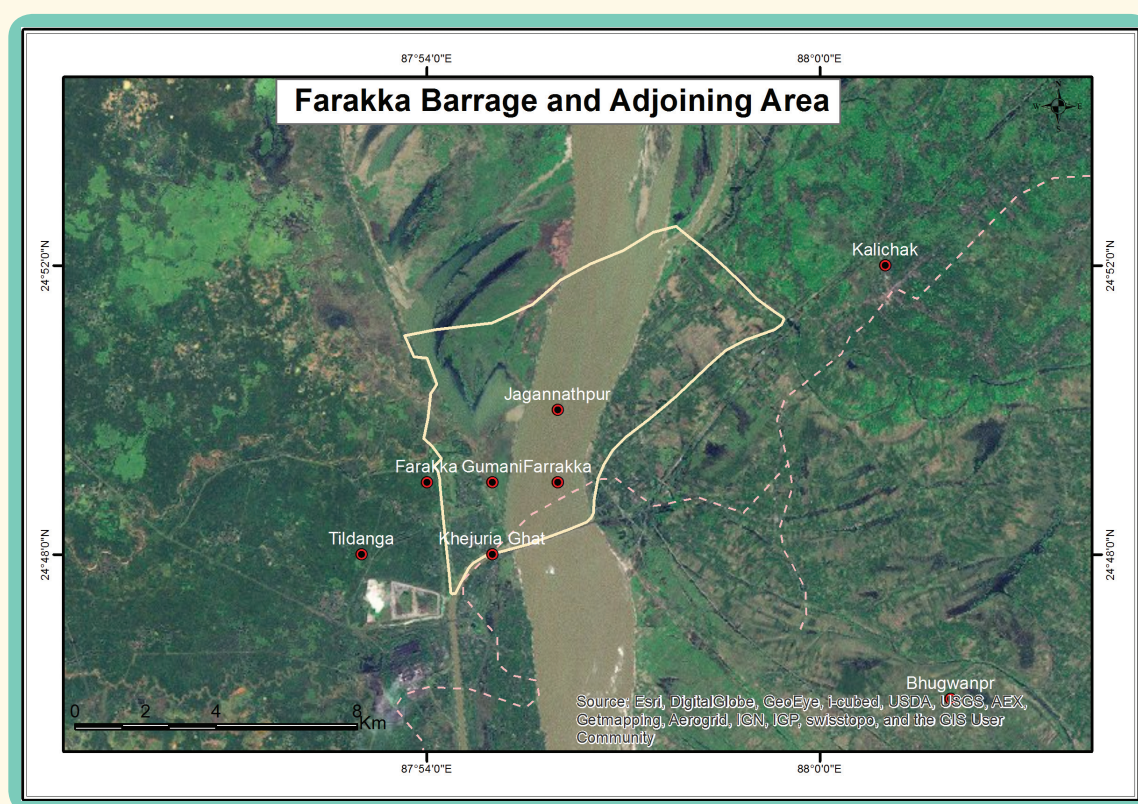
FARAKKA BARRAGE AND ADJOINING AREA

WB-02

IBA Site Code	: IN-WB-02	Altitude	: 30 m
State	: West Bengal	Rainfall	: 1,450 mm
District	: Malda	Temperature	: 8 °C to 40 °C
Coordinates	: 25° 05' 44" N, 87° 48' to 18' E	Biogeographic Zone	: Gangetic Plain
Ownership	: State	Habitats	: Riverine Vegetation and Reservoir
Area	: 2,000 ha		

IBA CRITERIA: A1 (Threatened species), A4i (% biogeographic population), A4iii ($\geq 20,000$ waterbirds)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

Farakka Barrage, constructed in 1974-75 over the River Ganga, about 20 km from the border of Bangladesh, has created a large reservoir, which stores water for irrigation. The overall span of the barrage is 1,200 m. The proposed IBA site starts from Farakka Barrage up to the Manikchak Ghat of Malda district (West Bengal). The maximum depth of water near the barrage is 25 m. From the onset of winter, the water starts to recede in the river and several *chaurs* or riverine islets emerge. The birds use these *chaurs* for day roosting and other diurnal activities. Around mid-February, as the *chaurs* reach a considerable size, the villagers of nearby villages reclaim them for agricultural purposes. On some *chaurs*, large reedbeds are present that are used by

migratory terrestrial birds such as reed warblers for foraging and roosting.

AVUFAUNA

Nearly 70 species of birds have been reported from this IBA (Samiran Jha *in litt.* 2002). The Farakka Barrage and Manikchak Ghat support waterfowl populations between 50,000 and 1,00,000, including about 8,000 Fulvous or Large Whistling Duck *Dendrocygna bicolor* (Jha and Sengupta 1999). Wetlands International (2012) has estimated that 1% of the biogeographical population is only 500, and the total population is 50,000. Therefore, Farakka Barrage holds one of the total estimated population of this species in the Indian subcontinent. Sharma (1998) counted

CRITICALLY ENDANGERED

Baer's Pochard	<i>Aythya baeri</i>
White-rumped Vulture	<i>Gyps bengalensis</i>
Long-billed Vulture	<i>Gyps indicus</i>

ENDANGERED

Black-bellied Tern	<i>Sterna acuticauda</i>
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VULNERABLE

Lesser Adjutant	<i>Leptoptilos javanicus</i>
Greater Spotted Eagle	<i>Aquila clanga</i>
Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>
Indian Skimmer	<i>Rynchops albicollis</i>

NEAR THREATENED

Oriental Darter	<i>Anhinga melanogaster</i>
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>
Black-headed Ibis	<i>Threskiornis melanocephalus</i>
Ferruginous Duck	<i>Aythya nyroca</i>

up to 70,000 Tufted Ducks *Aythya fuligula* on January 23, 1998. This is a very common species in India and elsewhere but according to Wetlands International (2012), the 1% threshold of biogeographic population in Central and South Asia is 3,900. The number seen in Farakka Barrage is more than 15 times of the 1% population of this species. These records qualify the site for an IBA. However, we do not have the latest figures of waterfowl of this site.

In the surrounding area, White-rumped *Gyps bengalensis* and Long-billed *Gyps indicus* Vultures were very common 20 years ago but now rarely seen.

Successful nesting of Black-necked Stork was seen in January 2009 by Sachin Ranade of BNHS.

OTHER KEY FAUNA

The area supports a healthy population of the endangered Gangetic Dolphin *Platanista gangetica* (Sinha 2000). Other major species of conservation concern are Gharial *Gavialis gangeticus*, Marsh Crocodile *Crocodylus palustris* and Otters *Lutra* spp.

LAND USE

- Aquaculture
- Agriculture

THREATS AND CONSERVATION ISSUES

- Agricultural intensification and expansion
- Fisheries
- Construction and impact of dykes/barrage
- Disturbance to birds

More than 40 species of commercial fish are found in the reservoir. Since its development nearly 30 years ago, the Farrakka Barrage has become an extremely important inland fisheries centre where every year hundreds of tons of fish is netted. However, this barrage has played havoc with the indigenous fauna, especially the Gangetic Dolphin and Gharial *Gavialis gangeticus*. The barrage has also obstructed the movement of the nutritionally valuable fish such as the Hilsa *Hilsa ilisha*. Sinha (2000) has discussed the adverse impact of this barrage in the context of the endangered Gangetic Dolphin. As far as waterfowl is concerned, this barrage has replaced some of the natural wetlands lost under cultivation.

KEY CONTRIBUTOR

Samiran Jha

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GORUMARA NATIONAL PARK

IN-WB-03

IBA Site code : IN-WB-03

State : West Bengal

District : Jalpaiguri

Coordinates : 26° 49' 12" N, 88° 51' 35" E

Ownership : State

Area : 7,995 ha

Altitude : 25–275 m

Rainfall : 3,684

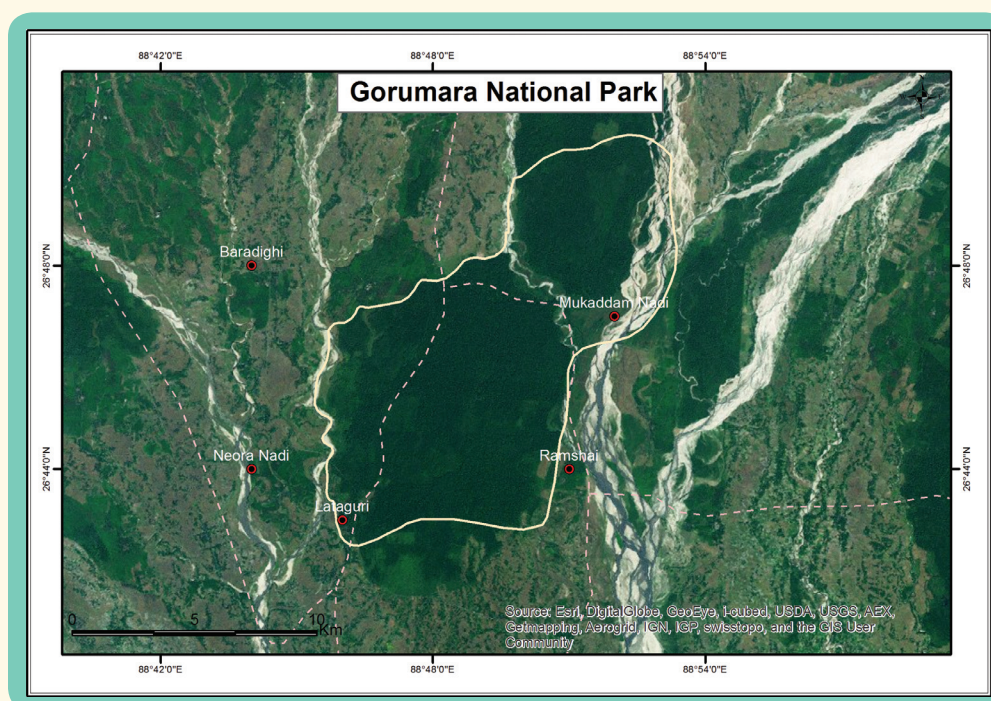
Temperature : 10 °C to 37 °C

Biogeographic Zone : Gangetic Plain

Habitats : Tropical Moist Deciduous Forest,
Tropical Dry Deciduous Forest,
Tropical Semi-evergreen Forest

IBA CRITERIA: A1 (Threatened species), A2 (Endemic Bird Area 131: Assam Plains; Endemic Bird Areas 130: Eastern Himalayas)

PROTECTION STATUS: National Park, established in January 1994.



GENERAL DESCRIPTION

Gorumara has been under protection since 1895, when it was declared a Reserve Forest under the Indian Forest Act (VII of 1878). It became a Wildlife Sanctuary in 1949, and was finally elevated to National Park status in 1994. However, the final notification procedure is still not complete.

Gorumara is located in the flood plains of Murti and Jaldhaka rivers in the Duars region, a *terai* habitat of Jalpaiguri district. There are many rivulets that have created wet grasslands, ideal for the One-horned Rhinoceros *Rhinoceros unicornis*, for which this area was protected for more than 100 years. In 1996, 16 individuals were present in Gorumara (Pratihari and Chakraborty 1996).

The vegetation of Gorumara can be classified into four main types: Moist Deciduous and Dry Deciduous forests, Semi-evergreen forest, Riverine Forest and Savannah

Forest. Nearly 326 species of plants have been identified, including 158 species of trees and 32 grasses (Anon. 1998). The core area of the Park contains dense mixed forest with thick undergrowth and is mainly composed of tall trees such as *Shorea robusta*, *Tectona grandis*, *Bombax ceiba*, *Amoora wallichii*, *Dalbergia sissoo*, *Sterculia villosa* and *Ficus bengalensis* (Pratihari and Chakraborty 1996). An interesting grass species is *Citronella*, which adds the fragrance of citrus fruit to the air, wherever it occurs in the Park.

AVIFAUNA

Gorumara has rich bird diversity but unfortunately, no systematic work has been done here. The Management Plan of Gorumara, prepared by the Wildlife Circle, State Forest Department (Anon. 1998) lists 193 species, including many Red Data Book species. Rufous-necked Hornbill

CRITICALLY ENDANGERED

White-rumped Vulture	<i>Gyps bengalensis</i>
Red-headed Vulture	<i>Aegypius calvus</i>
Bengal Florican (?)	<i>Houbaropsis benghalensis</i>

ENDANGERED

Black-bellied Tern	<i>Sterna acuticauda</i>
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VULNERABLE

Lesser Adjutant	<i>Leptoptilos javanicus</i>
Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>
Greater Spotted Eagle	<i>Clanga clanga</i>
Eastern Imperial Eagle	<i>Aquila heliaca</i>
Swamp Francolin ?	<i>Francolinus gularis</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>
Black-breasted Parrotbill ?	<i>Paradoxornis flavirostris</i>

NEAR THREATENED

Oriental Darter	<i>Anhinga melanogaster</i>
Himalayan Griffon	<i>Gyps himalayensis</i>
Grey-headed Fish-eagle	<i>Ichthyophaga ichthyaeus</i>
Great Pied Hornbill	<i>Buceros bicornis</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYAS

Snowy-throated Babbler	<i>Stachyris oglei</i>
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ENDEMIC BIRD AREA 131: ASSAM PLAINS

Black-breasted Parrotbill (?)	<i>Paradoxornis flavirostris</i>
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Aceros nipalensis, a globally threatened species found from the Himalaya foothills to 1,800 m (Ali and Ripley 1987) is also listed.

Based on the information gathered during IBA workshops in West Bengal, nine species belonging to threatened category (Critically Endangered and Vulnerable) and five species belonging to Near Threatened category of BirdLife International (2001) are found on this site. The Endangered Bengal Florican *Houbaropsis bengalensis* has not been seen in the recent years but some grasslands maintained for the One-horned Rhinoceros may still be suitable for this bird.

While the White-rumped Vulture *Gyps bengalensis* that was common a decade ago is now rarely seen, the Red-headed Vulture *Aegypius calvus* is uncommon but regular visitor in the Park. The Himalayan Griffon *Gyps himalayensis* was a regular winter visitor at least till 2009 (Sachin Ranade pers. comm. 2014). The Bengal Florican *Houbaropsis benghalensis* was earlier (>20 years ago) reported from the area but we do not have any confirmed record in the recent years. Similar is the case with Swamp Francolin *Francolins gularis*.

A small portion of this IBA falls in the Eastern Himalayas Endemic Bird Area (EBA 130) in which 21 restricted range species are listed. Only one species, the Snowy-throated Babbler *Stachyris oglei* has been identified till now, but more are likely to be found once detailed investigations are done. As most of Gorumara is plain, the site also lies in the Assam Plains Endemic Bird Area (EBA 131) (Stattersfield *et al.* 1998). In this EBA, three bird species are listed: Manipur Bush-quail *Perdica manipurensis*, Marsh Babbler *Pellorneum palustre* and Black-breasted Parrotbill *Paradoxornis*



DHRITIMAN MUKHERJEE

Gorumara was specially created for the protection of Indian One-horned Rhinoceros. About 50 live in this small 7,995 ha Park. Bird life is very rich and nearly 200 species have been identified, including many Red List species

flavirostris. There is no recent record of the first two species, and the third species does not occur so far west.

OTHER KEY FAUNA

In addition to the Rhinoceros, Gorumara is known for its mega-mammalian fauna such as the Asiatic Elephant *Elephas maximus*, Gaur *Bos gaurus*, Tiger *Panthera tigris*, and Leopard *P. pardus*. According to the Management Plan of the Gorumara National Park of the Wildlife Circle, West Bengal Forest Department, 48 species of mammals have been identified till now (Anon. 1998). Pratihara and Chakraborty (1996) have listed 43 mammal species, including the Malayan Giant Squirrel *Ratufa bicolor gigantea* and the highly-endangered Hispid Hare *Caprolagus hispidus*. However, Maheswaran (2002) found no evidence of Hispid Hare in the Gorumara National Park. Chital or Spotted Deer *Axis axis* has also been reported by the Forest Department, but Pratihara and Chakraborty (1996) could not find it.

LAND USE

- Nature conservation
- Tourism

THREATS AND CONSERVATION ISSUES

- Poaching
- Firewood collection
- Burning
- Grazing
- Expansion of road and railway line

Poaching of Rhinoceros for its 'horn' is the major threat in this Park. Till now, according to official records, there has been no incident of Rhinoceros poaching, but the threat is always there. Poaching of Chital *Axis axis* and Wild Boar *Sus scrofa* is common on the fringes of the Park.

There is a proposal to reintroduce the Critically Endangered Pygmy *Porcula salvania* in selected grasslands of the Gorumara National Park from where it became extinct a long time ago. It has been successfully reintroduced in Sonai Rupai (IBA) and Orang (IBA) in Assam from Pygmy Hog Conservation Breeding Centre, Basistha, Guwahati.

There are 13 revenue villages, four forest villages and five tea estates just outside the Park. They exert tremendous anthropogenic pressure on the forest resources. The village cattle graze on the fringes, and are sometimes killed by Tiger or Leopard, creating resentment against the Park. Villages on the periphery depend on the Park for fuel wood and fodder. Since the establishment of the Park, forestry operations have been stopped, resulting in the decrease in employment opportunities. Such socioeconomic problems must be addressed to save the Park and do justice to the villagers as well.

The National Highway No. 31 passes through the Park. There is a plan to widen it into an eight lane road. The Indian Railway plans to convert the existing metre-gauge track between Siliguri and Guwahati into broad-gauge, and also increase the frequency of trains. This would affect the Park adversely.

KEY CONTRIBUTOR

IBA Team

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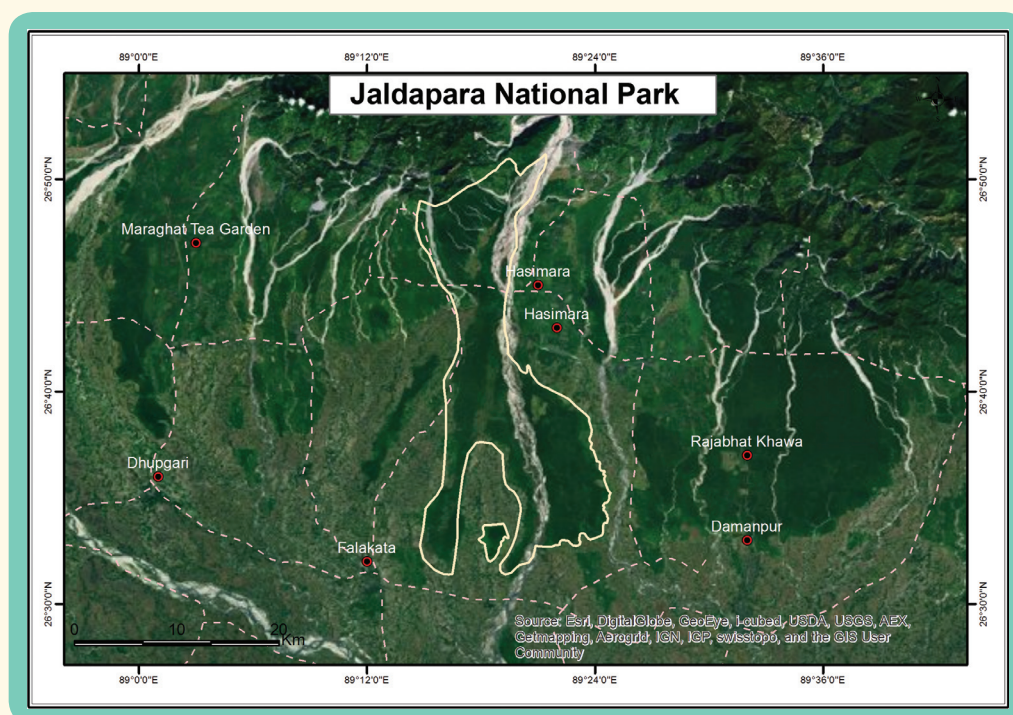
JALDAPARA NATIONAL PARK

IN-WB-04

IBA Site code	: IN-WB-04	Rainfall	: 382 cm
State	: West Bengal	Temperature	: 10 °C to 37 °C
District	: Jalpaiguri	Biogeographic Zone	: Gangetic Plain
Coordinates	: 26° 30' 57" N, 89° 28' 07" E	Habitats	: Tropical Moist Deciduous Forest,
Ownership	: State		Tropical Dry Deciduous Forest,
Area	: 21,651 ha		Tropical Dry Evergreen Forest,
Altitude	: 60–130 m		Tropical Grassland

IBA CRITERIA: A1 (Threatened Species), A2 (Endemic Bird Area 131: Assam Plains)

PROTECTION STATUS: Wildlife Sanctuary, established in June 1976. Declared National Park in May 2012.



GENERAL DESCRIPTION

The Jaldapara National Park is located in the flood plains of the River Torsa and other small rivers. It has large tracts of grasslands sustaining a small population of the One-horned rhinoceros *Rhinoceros unicornis*. The lofty snow-clad ranges of the Himalaya loom in the background. A number of rivulets, the Torsa, Hollong, Chirakhawa, Kalijhora, Sissamora, Sanjoy and Bhaluka traverse the Park. The great diversity of vegetation and the network of rivers and rivulets have made this Park home to a rich variety of avifauna.

The grasslands of the Park supports tall grasses like *Themada arundinacea*, *Saccharum narenga*, *S. arundinaceum*, *S. spontaneum*, *S. bengalense*, *Heteropogon contortus*, *Imperata cylindrical* and *Arundo donax*. The

forest on the western side consists of *Dalbergia sissoo*, *Albizia lebbek*, *Acacia catechu*, *Bombax ceiba* and the eastern side is dominated by Sal forest *Shorea robusta*.

The Park consists mainly of riverine forests, with grasslands, maintained by burning of grasslands periodically by the forest officials. About 20-30% of the Park bears tall grasses (Narayan *et al.* 1989).

Jaldapara is connected through the Chilapata Reserve Forest to Buxa Tiger Reserve (an IBA).

AVIFAUNA

Jaldapara is one of the best areas in northern West Bengal where the tall, wet grassland of the Indo-Gangetic plains is still seen, thanks to the protection of this habitat for the sake of the One-horned Rhinoceros. Despite the fact



CHRITIMAN MUKHERJEE

Despite intense biotic pressure from all around, Jaldapara is a well-protected Park. Unfortunately, the Critically Endangered Bengal Florican has not been seen for almost a decade but many other Globally Threatened bird species are still found. About 240 bird species have been noted till now but more are likely to occur in this IBA

that Jaldapara is very popular among visitors, tourists and wildlifers, a systematic bird checklist is not available. According to the records of the Forest Department, 240 species of birds are known to occur here (Kumar 1998), but many species need confirmation. Kumar (1998), during his short trip, saw 53 species from elephant back in the vicinity of Hollong Lodge, on the banks of the Hollong river and the Peacock Avenue. According to Avibase – Bird Checklists

of the World (accessed in November 2014), 173 species are found in Jaldapara.

According to Ali *et al.* (1985) Jaldapara was the last known locality for the Bengal Florican *Houbaropsis bengalensis* in West Bengal. Narayan *et al.* (1989) estimated a population of up to 10 individuals in Jaldapara in the late 1980s. However, during the survey of the Hispid Hare *Caprolagus hispidus* by Maheswaran (2002), no Bengal Florican was sighted—both the species live in the same grassland. There is no record of this Critically Endangered bustard from Jaldapara for the last 15 years and is presumed to be locally extinct.

Kushal Mookherjee (*in litt.* 2001) has reported Black-breasted Parrotbill *Paradoxornis flavirostris* and Yellow Weaver *Pleceus megarhyncha*, two globally threatened birds. The presence of Parrotbill is perhaps the best indication that tall, dense *terai* grassland is still surviving. Yellow Weaver is also restricted to *terai* grasslands but the more open types, with tall trees for nesting (Ali and Ripley 1987). There is no recent record of both these species.

Greater Adjutant *Leptoptilos dubius*, once fairly common in Jaldapara and all over West Bengal, has drastically decreased and none has been sighted in this site for many years. However, Lesser Adjutant *L. javanicus* is still occasionally sighted in and around the Park.

CRITICALLY ENDANGERED

Red-headed Vulture	<i>Aegypius calvus</i>
Bengal Florican (extinct?)	<i>Houbaropsis bengalensis</i>

ENDANGERED

Black-bellied Tern	<i>Sterna acuticauda</i>
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VULNERABLE

Lesser Adjutant	<i>Leptoptilos javanicus</i>
Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>
Black-breasted Parrotbill (?)	<i>Paradoxornis flavirostris</i>
Yellow Weaver (?)	<i>Ploceus megarhynchus</i>

NEAR THREATENED

Oriental Darter	<i>Anhinga melanogaster</i>
Grey-headed Fish-eagle	<i>Ichthyophaga ichthyaetus</i>
Blossom-headed Parakeet	<i>Psittacula roseata</i>
Alexandrine Parakeet	<i>Psittacula eupatria</i>
Great Pied Hornbill	<i>Buceros bicornis</i>

Although this site was selected on the basis of the presence of a small population of the Bengal Florican, it is locally extinct. However, the tall, wet grassland habitat could be having viable populations of many grassland-dependent species. As the Park is well protected, despite being surrounded by dense human population, there are long-term chances of survival of many grassland birds.

According to Sachin Ranade of BNHS (*pers. comm.* 2014), nesting of Slender-billed vulture *Gyps tenuirostris* was seen till 2003 and White-rumped *Gyps bengalensis* till 2008, but not later on. In recent surveys (2011) none of the vulture species were sighted.

In January 1987, Prieme *et al.* (*OBC Bulletin* 6:36-37, 1987) reported a flock of 65 Yellow Weaver *Ploceus magarhynchus* but since then we have no confirmed record. Similarly, there is no recent record of Black-breasted Parrotbill *Paradoxornis flavirostris* from Jaldapara.

OTHER KEY FAUNA

Jaldapara is an important refuge for the One-horned Rhinoceros *Rhinoceros unicornis*, whose present population stands at about 160. Earlier, its numbers appeared to have dwindled from an estimated 72 in 1964 (Spillett 1967) to 22 in 1980 (Chowdhuary and Ghosh 1984). Now the population is back to 160, thanks to control on poaching. Apart from this, a good population of Gaur *Bos gaurus*, a few Sloth Bear *Melursus ursinus*, a good number of Wild Boar *Sus scrofa*, Indian Muntjak or Barking Deer *Muntiacus muntjak*, Hog Deer *Axis porcinus*, Chital or Spotted Deer *Axis axis* and Sambar *Rusa unicolor* are also present here. The Swamp Deer *Cervus duvaucelii* is locally extinct. Leopard *Panthera pardus* and Asian Elephant *Elephas maximus* are very common, and sometimes one can see huge herds of elephants wandering in the Sanctuary. A small resident population of elephants is also seen throughout the year.

Recently, a small remnant population of Hispid Hare *Caprolagus hispidus* has been found by a BNHS scientist within the Jaldapara National Park. It is the only population of this highly endangered species in the whole of north Bengal and the estimated number is around 30 (Maheswaran 2002). The whole Park, especially the tall grasslands, should be protected to save grassland-dependent species like the Hispid Hare.

LAND USE

- Nature conservation

THREATS AND CONSERVATION ISSUES

- Grazing
- Fuel wood collection

Jaldapara and the nearby Buxa Tiger Reserve are together one of the most important areas in northeastern India, providing a refuge for potentially viable populations of several threatened species (Tiger, Elephant, Rhinoceros, Swamp Deer, Gaur, certain lesser cats, Hispid Hare and Bengal Florican) and critical as a corridor for the wildlife moving between Bhutan and Assam (Rodgers and Panwar 1988). In May 2012, Jaldapara was declared as the sixth national park of West Bengal.

The Park has always been under threat from the high densities of villages occupying the surrounding areas. Illegal grazing by domestic livestock continues to be a major problem, besides unchecked movements of villagers who venture into the Park to collect fuel wood and thatch grass for roofing. Consequently, these resources have been largely depleted from the surrounding area (Spillett 1967, Chowdhuary and Ghosh 1984, Seshadri 1986).

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G. Maheswaran, Asad R. Rahmani

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KULIK (RAIGANJ) BIRD SANCTUARY

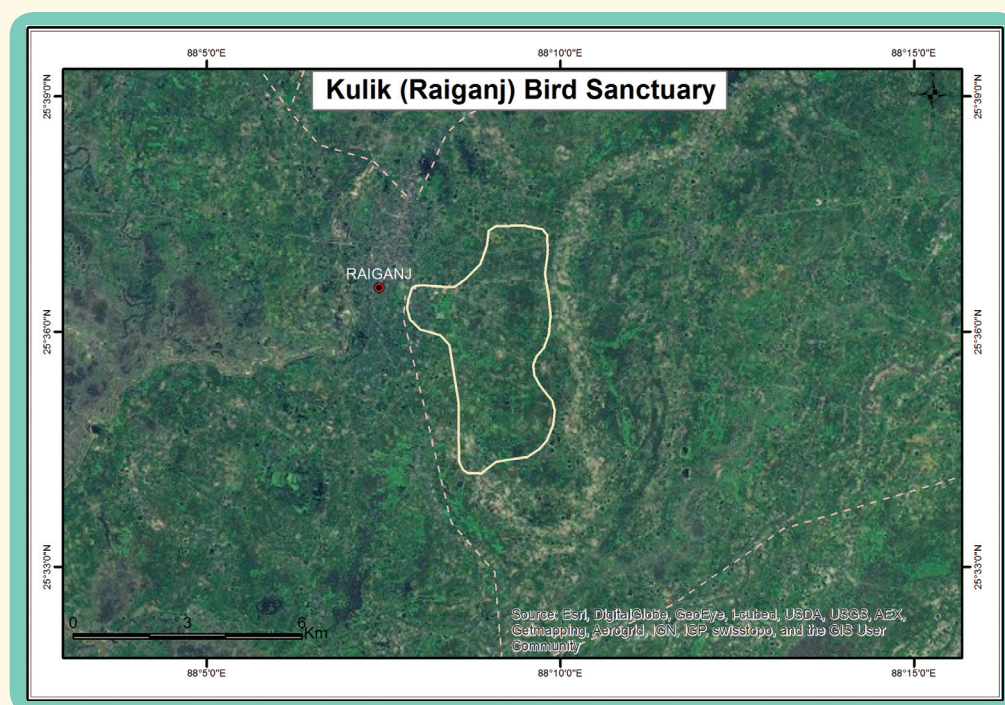
IN-WB-05

IBA Site code	: IN-WB-05
State	: West Bengal
District	: Uttar Dinajpur
Coordinates	: 25° 58' 00" N, 87° 52' 50" E
Ownership	: State
Area	: 130 ha
Altitude	: 35 m

Rainfall	: 1,500 mm
Temperature	: 8 °C to 40 °C
Biogeographic Zone	: Gangetic Plain
Habitats	: Freshwater Swamp, Riverine Vegetation, Tropical Dry Deciduous Forest

IBA CRITERIA: A1 (Threatened species), A4i (1% biogeographic population), A4iii (20,000 waterbirds)

PROTECTION STATUS: Bird Sanctuary, established in 1986.



GENERAL DESCRIPTION

The Kulik (Raiganj) Bird Sanctuary is an artificial plantation of Dry Deciduous Forest around a U-shaped canal. During the monsoon the canal gets connected with the Kulik river which marks the eastern and southern boundary of the Sanctuary. National Highway 34 passes through the Sanctuary, dividing it into two halves. The U-shaped canal has created a small island-like area in the middle of the Sanctuary, which is the main breeding ground for birds. This area is a preferred habitat for heronry species (Jha and Sengupta 1999).

Around this artificial water body, the Forest Department has planted *Anthocephalus cadamba*, *Lagerstroemia reginae*, *Dalbergia sissoo*, *Eucalyptus* sp. and *Barringtonia* sp. (S. Jha, *in litt.* 2002, Jha 2006).

AVIFAUNA

The Sanctuary, although an artificially planted forest, holds perhaps the largest nesting colony of Asian Openbill *Anastomus oscitans* (Jha and Sengupta 1999). More than 11,000 nests were recorded in 1999. Pramanik *et al.* (2010) studied the Asian Openbill in the Kulik Bird Sanctuary and recorded 44,810 birds in 2007 and 58,920 in 2008. According to Wetlands International (2012), the total breeding population of this species in South Asia is 300,000, and the 1% threshold is 3,000. Thus about 10 % of the breeding population is found in this Sanctuary. The population of Asian Openbill has increased dramatically. For example, Shahi (1983) has seen 3,956 nests in 1981, and he estimated a population of about 15,800 storks (parents and two chicks in each nests). He also counted 1,030 nests



DHRIITIMAN MUKHERJEE

The U-shape has created a small island-like area in the middle of which is the main breeding ground for birds, particularly Asian Openbill *Anastomus oscitans*. Nearly 60,000 were reported in 2008

of Black-crowned Night-heron *Nycticorax nycticorax*, and estimated a population of about 4,000 Night-herons. His estimates of other species are 3,000 egrets and 2,700 Little Cormorants *Phalacrocorax niger*.

The Kulik Bird Sanctuary is a flood plain area and the main rice growing area of the region dotted with many large water bodies, river beds and marshy areas which are full of *Pila globosa*, the main food of the Asian Openbill. Around 127 species of birds have been recorded from the area (S. Jha, *in litt.* 2002). Kulik is one of the most important heronries in India (Subramanya 1996).

Earlier, White-rumped *Gyps bengalensis* and Long-billed *G. indicus* vultures were found, but there is no recent record known to us. Similarly, Pallas's Fish-eagle *Haliaeetus leucoryphus* has also become very rare.

VULNERABLE

Lesser Adjutant	<i>Leptoptilos javanicus</i>
Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>

OTHER KEY FAUNA

The fauna does not include any species of much significance except for some Golden Jackal *Canis aureus*, Jungle Cat *Felis chaus*, Roofed Turtle *Kachuga dhongoka*, and Yellow Monitor Lizard *Varanus flavescens*.

LAND USE

- Agriculture
- Forestry
- Nature conservation and research,
- Tourism

THREATS AND CONSERVATION ISSUES

- Poaching of birds
- Aquaculture/Fisheries
- Disturbance to birds
- Tourists
- Firewood collection

Tree felling by villagers as well as by the Forest Department, egg collection for commercial purpose, chick collection for the table, disturbance by insensitive tourists, noise from picnickers in the nearby Kulik river are some of the conservation problems in this Sanctuary. After these issues were raised by a local NGO called Green Peoples, the authorities stopped tree felling in the Sanctuary area, and also banned picnickers. However, egg and chick collection continues despite the ban. Unregulated fishing is another problem.

In 2011, concerned about the decrease of birds in the Kulik Bird Sanctuary, the State Forest Department has



DHRITIMAN MUKHERJEE

Although many species breed in Kulik Bird Sanctuary, also called Raiganj, people flock to see large number of Asian Openbill

asked the Zoological Survey of India to conduct studies to find out the reason for this decline. In order to decrease noise during the breeding season aof the birds, the District Forest Officer has declared a one-kilometre no-horn zone in the stretch between the Kulik Bridge and the Sericulture Department office.

KEY CONTRIBUTOR

Samiran Jha, IBA team

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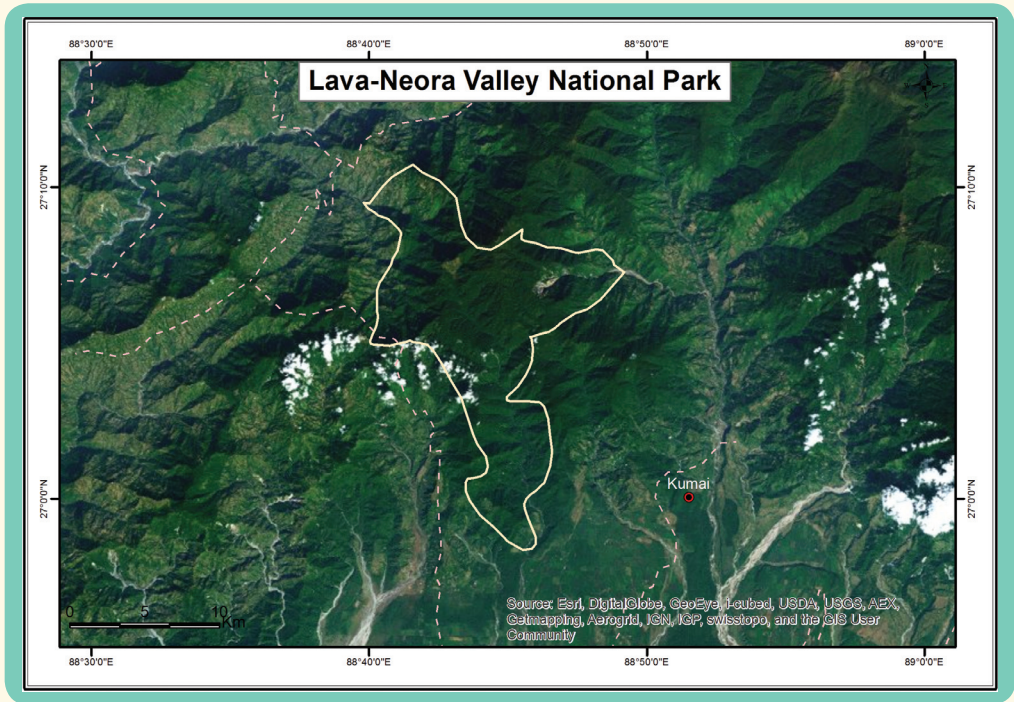
LAVA-NEORA VALLEY NATIONAL PARK

IN-WB-06

IBA Site code	: IN-WB-06	Rainfall	: Not available
State	: West Bengal	Temperature	: Not available
District	: Darjeeling	Biogeographic Zone	: Himalaya
Coordinates	: Not available	Habitats	: Sub-tropical Broadleaf Hill, Montane
Ownership	: State		Wet Temperate Forest, Sub-tropical
Area	: 15989.17 ha		Pine Forest, Sub-tropical Secondary
Altitude	: 183-3,200 m		Scrub

IBA CRITERIA: A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalayas), A3 (Biome-7: Sino-Himalayan Temperate Forest; Biome-8: Sino-Himalayan Sub Tropical Forest)

PROTECTION STATUS: National Park, established in April 1986.



GENERAL DESCRIPTION

The Neora Valley National Park is one of the three protected areas in Darjeeling district, and probably the most undisturbed patch of forest in West Bengal. It is unique and ecologically important as it includes a relatively inaccessible patch of late-successional forest with rich diversity and a wide range of environmental gradients.

The Neora Valley National Park has four main habitat types: Sub-tropical Mixed Broadleaf Forest, Lower Temperate Evergreen Forest, Upper Temperate Mixed Broadleaf Forest and Rhododendron Forest (Pradhan *in litt.* 2003).

AVIFAUNA

The Neora Valley and Lava are very popular among birdwatchers. So, there is a fairly comprehensive birdlist.

A total of 258 bird species have been sighted (Nick Dymond *in litt.* 2002; Anand Prasad *in litt.* 2003).

At least six Threatened species and twelve Near Threatened species are found in this site. It is one of the best sites in India to see rarities such as the Rusty-bellied Shortwing *Brachypteryx hyperythra*. This species is also considered as restricted range by Stattersfield *et al.* (1998) and BirdLife International (2001) as it is endemic to the Eastern Himalayas, and perhaps has a narrow distributional range. However, the discovery of nine singing males in the Lava area in 1996 (Mauro and Vercruysse 2000) was the first record in the Darjeeling area since 1945, and confirmed that fairly dense populations survived in at least this area (BirdLife International 2001).

Thanks to its great altitudinal variation from 183 m to



DHRIITIMAN MUKHERJEE

Neora Valley NP has become one of the topmost birding destinations of India, thanks to the presence of good infrastructure, beautiful scenery and presence of nearly 260 bird species. Many Red List species have significant populations in this IBA

CRITICALLY ENDANGERED

Slender-billed Vulture *Gyps tenuirostris*

VULNERABLE

Eastern Imperial Eagle *Aquila heliaca*
 Chestnut-breasted Partridge *Arborophila mandelli*
 Rufous-necked Hornbill *Aceros nipalensis*
 Beautiful Nuthatch *Sitta formosa*
 Rusty-throated Wren-babbler *Spelaeornis badeigularis*

NEAR THREATENED

Ferruginous Duck *Aythya nyroca*
 Himalayan Griffon *Gyps himalayensis*
 Pallid Harrier *Circus macrourus*
 Satyr Tragopan *Tragopan satyra*
 Alexandrine Parakeet *Psittacula eupatria*
 Red-breasted Parakeet *Psittacula alexandri*
 Ward's Trogon *Harpactes wardi*
 Great Pied Hornbill *Buceros bicornis*
 Yellow-rumped Honeyguide *Indicator xanthonotus*
 Rusty-bellied Shortwing *Brachypteryx hypertythra*
 Blackish-breasted Babbler *Sphenocichla humei*
 Rufous-throated Wren-babbler *Spelaeornis caudatus*

NDEMIC BIRD AREA 130: EASTERN HIMALAYAS

Chestnut-breasted Partridge *Arborophila mandelli*
 Ward's Trogon *Harpactes wardi*
 Yellow-vented Warbler *Phylloscopus cantator*
 Broad-billed Warbler *Tickellia hodgsoni*
 Blackish-breasted Babbler *Sphenocichla humei*
 Rufous-throated Wren-babbler *Spelaeornis caudatus*
 Hoary-throated Barwing *Actinodura nipalensis*
 White-naped Yuhina *Yuhina bakeri*
 Rusty-bellied Shortwing *Brachypteryx hypertythra*

3,200 m, Lava-Neora Valley covers two biomes: Biome-7 (Sino-Himalayan Temperate Forest) from about 1,800 m to 3,600 m, and Biome-8 (Sino Himalayan Subtropical Forest) from about 1,000 m to 2,000 m. BirdLife International (undated) has listed 112 and 95 species respectively in these biomes. Forty-three species of Biome-7 and twenty-four of Biome-8 have been identified so far but more are likely to occur.

As the Neora Valley is regularly visited by birdwatchers, some very interesting records are available from this site. For instance, a spectacular calling flock of almost 600 Hill Myna *Gracula religiosa* was seen near Loleygaon, and another flock of about 1,000 individuals of Dark-throated Thrushes *Turdus ruficollis* was seen at Rishyap (Mike Prince *in litt.* 2002). Roy *et al.* (2011) reported seventy-three bird species from the Neora Valley National Park during April-May 2010 surveys. The study was carried out to investigate the importance of habitat quality and habitat heterogeneity for the diversity, distribution and abundance of avifauna in and around the National Park. Pradhan (2012) reported twenty-three pairs of Rufous-necked Hornbill *Aceros nipalensis* and seven pairs of Great Pied Hornbill *Buceros bicornis* in the Neora Valley National Park in April-May 2005.

Blackish-breasted Babbler *Sphenocichla humei* was recorded for the first time at around 1800 m when Chewang Bonpo taped out a pair in December 2010 (Biswapriya Rahut

BIOME-7 SINO-HIMALAYAN TEMPERATE FOREST

Common Hill-partridge	<i>Arborophila torqueola</i>
Blood Pheasant	<i>Ithaginis cruentus</i>
Satyr Tragopan	<i>Tragopan satyra</i>
Himalayan Monal	<i>Lophophorus impejanus</i>
Speckled Wood-Pigeon	<i>Columba hodgsonii</i>
Darjeeling Pied Woodpecker	<i>Dendrocopos darjellensis</i>
Long-billed Thrush	<i>Zoothera monticola</i>
White-collared Blackbird	<i>Turdus albocinctus</i>
Chestnut Thrush	<i>Turdus rubrocanus</i>
Gould's Shortwing	<i>Brachypteryx stellata</i>
Indian Blue Robin	<i>Luscinia brunnea</i>
Golden Bush-robin	<i>Tarsiger chrysaeus</i>
White-browed Bush-robin	<i>Tarsiger indicus</i>
Rufous-breasted Bush-robin	<i>Tarsiger hyperythrus</i>
White-bellied Redstart	<i>Hodgsonius phaenicuroides</i>
Rusty-tailed Flycatcher	<i>Muscicapa ruficauda</i>
Ferruginous Flycatcher	<i>Muscicapa ferruginea</i>
Rufous-gorgeted Flycatcher	<i>Ficedula strophata</i>
Slaty-blue Flycatcher	<i>Ficedula tricolor</i>
Sapphire Flycatcher	<i>Ficedula sapphira</i>
Rufous-bellied Niltava	<i>Niltava sundara</i>
White-throated Laughingthrush	<i>Garrulax albogularis</i>
Striated Laughingthrush	<i>Garrulax striatus</i>
Spotted Laughingthrush	<i>Garrulax ocellatus</i>
Scaly Laughingthrush	<i>Garrulax subunicolor</i>
Black-faced Laughingthrush	<i>Garrulax affinis</i>
Stripe-throated Yuhina	<i>Yuhina gularis</i>
Rufous-vented Yuhina	<i>Yuhina occipitalis</i>
Rufous-breasted Accentor	<i>Prunella strophata</i>
Chestnut-headed Tesia	<i>Tesia castaneocoronata</i>
Grey-bellied Tesia	<i>Tesia cyaniventer</i>
Aberrant Bush-warbler	<i>Cettia flavolivacea</i>
Yellowish-bellied Bush-warbler	<i>Cettia acanthizoides</i>
Grey-sided Bush-warbler	<i>Cettia brunnifrons</i>
Buff-barred Warbler	<i>Phylloscopus pulcher</i>
Grey-faced Warbler	<i>Phylloscopus maculipennis</i>
Large-billed Leaf-warbler	<i>Phylloscopus magnirostris</i>
Grey-cheeked Flycatcher-warbler	<i>Seicercus poliogenys</i>
Yellow-breasted Greenfinch	<i>Carduelis spinoides</i>
Tibetan Siskin	<i>Carduelis thibetana</i>
Dark-breasted Rosefinch	<i>Carpodacus nepalensis</i>
Dark-rumped Rosefinch	<i>Carpodacus edwardsii</i>
Crimson-browed Finch	<i>Propyrrhula subhimachala</i>
Scarlet Finch	<i>Haematospiza sipahi</i>
Brown Bullfinch	<i>Pyrrhula nipalensis</i>
Red-headed Bullfinch	<i>Pyrrhula erythrocephala</i>
Yellow-billed Blue Magpie	<i>Urocissa flavirostris</i>

pers. comm. 2014). Ward's Trogon *Harpactes wardi* was first recorded in May 2000 and first photographically documented on 29 March 2014 (Biswapriya Rahut *in litt.* 2013). Apart from these, both the species of enigmatic Cochoas have been recorded from the area.

Suntalekhola, on the fringes of the Neora Valley National Park, is also a good area for birds. Its altitude varies from 2,000 to 3,200 m. Hence it has many restricted range species of the Eastern Himalayas Endemic Bird Area. D. Ghosh (*in litt.* 2002) has sighted 64 species of birds.

BIOME-8: SINO-HIMALAYAN SUB TROPICAL FOREST

Rufous-throated Partridge	<i>Arborophila rufogularis</i>
Chestnut-breasted Partridge	<i>Arborophila mandelli</i>
Kaleej Pheasant	<i>Lophura leucomelanos</i>
Asian Emerald Cuckoo	<i>Chrysococcyx maculatus</i>
Golden-throated Barbet	<i>Megalaima franklinii</i>
Blue-throated Barbet	<i>Megalaima asiatica</i>
Bay Woodpecker	<i>Blythipicus pyrrhotis</i>
Black-winged Cuckooshrike	<i>Coracina melaschistos</i>
Short-billed Minivet	<i>Pericrocotus brevirostris</i>
Himalayan Bulbul	<i>Pycnonotus leucogenys</i>
Himalayan Black Bulbul	<i>Hypsipetes leucocephalus</i>
Tickell's Thrush	<i>Turdus unicolor</i>
White-tailed Robin	<i>Myiomela leucura</i>
Blue-fronted Robin	<i>Cinclidium frontale</i>
Slaty-backed Forktail	<i>Enicurus schistaceus</i>
Purple Cochoa	<i>Cochoa purpurea</i>
Grey-sided Laughingthrush	<i>Garrulax caeruleatus</i>
Red-faced Liocichla	<i>Liocichla phoenicea</i>
Rusty-cheeked Scimitar-babbler	<i>Pomatorhinus erythrogenys</i>
Rufous-capped Babbler	<i>Stachyris ruficeps</i>
Red-billed Leiothrix	<i>Leiothrix lutea</i>
Slaty-billed Tesia	<i>Tesia olivea</i>
White-gorgeted Flycatcher	<i>Ficedula monileger</i>
Black-throated Sunbird	<i>Aethopyga saturata</i>
Streaked Spiderhunter	<i>Arachnothera magna</i>
Grey Treepie	<i>Dendrocitta formosae</i>

According to Biswapriya Rahut (*pers. comm.* 2014) there has been no documentation or reports of the Black-breasted Parrotbill *Paradoxornis flavirostris* from the Neora Valley National Park in the last 20 years and the park does not have the habitat that is commonly associated with the species as found elsewhere in India. Hence it has been removed from the list. Further, there has been no recent reports of the Pale-capped Wood-pigeon *Columba punicea* from the area and may be removed from the list. Rufous-throated Wren-babbler *Spelaeornis caudatus* is found in both in Sino-Himalayan Subtropical Forest and Sino-Himalayan Temperate Forest.

OTHER KEY FAUNA

There had been reports of Bengal Tiger *Panthera tigris* from the area during 1997 and a Tiger Census was conducted in 1998 which came out with positive results. Indirect evidences reflect that Tigers occur as high as 10,000 ft. in the Neora Valley National Park. In addition to this, Red Panda *Ailurus fulgens*, Leopard *Panthera pardus*, Wild Dog or Dhole *Cuon alpinus*, Himalayan Brown Goral *Nemorhaedus goral*, Himalayan Serow *Capricornis thar*, Gaur *Bos gaurus*, Asiatic Black Bear *Ursus thibetanus* and lesser cats occur in the area.

LAND USE

- Tourism and recreation.
- Nature conservation and research



DHRIITMAN MUKHERJEE

Globally threatened Red Panda *Ailurus fulgens* is elusive and rarely seen but it is fairly widespread in suitable habitats in the Park



DHRIITMAN MUKHERJEE

The Blood Pheasant *Ithaginis cruentus* is not uncommon in Neora Valley NP, although not easy to see

THREATS AND CONSERVATION ISSUES

- Fuel wood collection
- Forest fires
- Poaching
- Logging
- Encroachment
- Grazing

Like any other protected area in India, the Neora Valley National Park also suffers from illegal cattle grazing, firewood collection, encroachment on the fringes and poaching. But due to inaccessibility and difficult terrain, the biotic pressures are not very acute. The Neora Valley National Park has some intact forest patches.

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MAHANANDA WILDLIFE SANCTUARY

IN-WB-07

IBA Site code : IN-WB-07

State : West Bengal

District : Darjeeling

Coordinates : 26° 51' 34" N, 88° 24' 45" E

Ownership : State

Area : 12,722 ha

Altitude : 45-1,750 m

Rainfall : Not available

Temperature : Not available

Biogeographic Zone : Himalaya

Habitats : Tropical Semi-evergreen Forest,
Tropical Dry Deciduous Forest,
Montane Wet Temperate Forest

IBA CRITERIA: A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalayas, Endemic Bird Area 131: Assam Plains), A3 (Biome-8: Sino-Himalayan Subtropical Forest)

PROTECTION STATUS: Wildlife Sanctuary, established in June 1976.



GENERAL DESCRIPTION

The Mahananda Sanctuary is located on the west bank of the River Teesta in the southern part of Darjeeling district in West Bengal. It was declared a Sanctuary in 1976 to protect the lower catchment of the Mahanadi River, but till 1988 it was under the control of the Kurseong Forest Division, when it was transferred to the Wildlife Division. The terrain is undulating, with moderate to steep slopes and high ridges towards the north. The hill slopes descend to almost flat stretches of the *terai* and alluvial plains towards the south of the IBA.

The main entry point of Mahananda Wildlife Sanctuary is via Sukna, a small village 12 km from Siliguri on the Siliguri-Darjeeling road. National Highway 31 passes through the southern part of the Sanctuary. It is perhaps

the largest compact block of forested habitat situated at the western end of the migratory route of the Asian Elephant *Elephas maximus*.

A large water body of nearly 1,500 ha, formed after the construction of a barrage on the Teesta, falls in the buffer zone of this Sanctuary.

As Mahananda extends across hills as well as plains, the forest types are quite varied. In the hills, we see Sal Forest, Dry Mixed Forest and Wet Mixed Forest. In some portions, Sal *Shorea robusta* forms almost pure stands, with occasionally other species such as *Gmelina arborea*, *Terminalia*, *Lagerstroemia parviflora*, *Sterculia villosa* and *Toona ciliata*. The flood plains of the rivers are covered with *Phragmites karka* and *Saccharum munja*, with scattered *Bombax ceiba* trees. This habitat is under human pressure

and only a few undisturbed patches are left. This is the habitat of Jerdon's Babbler *Chrysomma altirostre* and the Bengal Florican *Houbaropsis bengalensis*. While the former is still reported occasionally, the latter species is probably extinct in this area.

AVIFAUNA

The bird life is very rich in Mahananda as the Park is at the crossroads of two biomes i.e. Sino-Himalayan Sub-tropical Forest and Indo-Chinese Tropical Moist Forests, with a small portion of Indo-Gangetic Plain. The higher reaches of the Park harbour elements of Sino-Himalayan Temperate Forest. The checklist prepared by Lobo (2003) has 316 species while in the Calcutta Gazetteer, (Anon., undated), 300 birds have been listed.

The site lies in the Eastern Himalayas Endemic Bird Area (EBA 130) in which Stattersfield *et al.* (1998) have listed 21 species found in India. Only one has been located in this site, Rusty-bellied Shortwing *Brachypteryx hyperythra*, a bird of forest undergrowth and thickets (Grimmett *et al.* 1998). Interestingly, another rare and endemic bird found here is the Black-breasted Parrotbill *Paradoxornis flavirostris*, belonging to Assam Plains Endemic Bird Area (EBA 131) where only three species are considered restricted range, and Parrotbill is one of them. This bird is confined to tall, wet grasslands and reedbeds.

There are unconfirmed reports of occurrence of Bengal Florican *Houbaropsis bengalensis* in the grasslands on the riverbanks. During surveys in the 1980s by Rahmani *et al.* (1990), this bustard was not located in Mahananda. There is a grassland called Ghoramora and on the River Teesta, about one km from Ghoramora, there are a few big grass-covered islands which could have some floricans.

Another globally threatened species occurring here is the Rufous-necked Hornbill *Aceros nipalensis*. Ghose *et al.* (2006) reported that two adult males and an adult female were sighted near Latpanchor Beat of the Mahananda Wildlife Sanctuary. It is also reported in two more IBAs in West Bengal, Buxa and Lava-Neora.

Robson, C. (2002) reported in February, Vulnerable Lesser Adjutant *Leptoptilos javanicus* and Near Threatened Black-necked Stork *Ephippiorhynchus asiaticus* from the Mahananda Wildlife Sanctuary.

Twenty-years ago three resident vulture species namely White-rumped *Gyps bengalensis*, Slender-billed *G. tenuirostris* and Red-headed *Aegypius calvus* vultures were fairly common but there is no recent record of the birds. However, migratory Himalayan Vulture *Gyps himalayensis* and Griffon Vulture *G. fulvus* are still seen in winter and, occasionally, so are a few individuals of Cinereous Vulture *Aegypius monachus*.

Similarly, globally Vulnerable Black-breasted Parrotbill *Paradoxornis flavirostris* was reported from the area but we

do not have any recent confirmed record. This grassland-habitat specialist could still occur in suitable areas. Proper survey of the Park is required.

Two biomes occur in Mahananda: Biome-8 (Sino Himalayan Subtropical Forest) from c. 1,000 to 1,800 m, and Biome-9 (Indo-Chinese Tropical Moist Forests) found below 1,000 m. BirdLife International (undated) has listed 95 species in Biome-8 that occur in India, out of which 22 species are found in this IBA. Similarly, many species of Biome-9 are also found. In winter, many birds of Biome-5 (Eurasian High Montane-Alpine and Tibetan) are seen here when they come down to escape winter. One of the most interesting species is Ibisbill *Ibidorhyncha struthersii*. Himalayan Vulture *Gyps himalayensis* is also seen sometimes, especially in the higher reaches of Mahananda.

ENDANGERED	
Bengal Florican (?)	<i>Houbaropsis bengalensis</i>
VULNERABLE	
Lesser Adjutant	<i>Leptoptilos javanicus</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Black-breasted Parrotbill (?)	<i>Paradoxornis flavirostris</i>
NEAR THREATENED	
Oriental Darter	<i>Anhinga melanogaster</i>
Black-headed Ibis	<i>Threskiornis melanocephalus</i>
Pallid Harrier	<i>Circus macrourus</i>
Great Hornbill	<i>Buceros bicornis</i>
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>
ENDEMIC BIRD AREA 130: EASTERN HIMALAYAS	
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
ENDEMIC BIRD AREA 131: ASSAM PLAINS	
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>
BIOME-8: SINO-HIMALAYAN SUBTROPICAL FOREST	
Asian Emerald Cuckoo	<i>Chrysococcyx maculatus</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Bay Woodpecker	<i>Blythipicus pyrrhotis</i>
Black-winged Cuckooshrike	<i>Coracina melaschistos</i>
Himalayan Bulbul	<i>Pycnonotus leucogenys</i>
White-throated Bulbul	<i>Alophoixus flaveolus</i>
Himalayan Black Bulbul	<i>Hypsipetes leucocephalus</i>
Lesser Long-billed Thrush	<i>Zoothera marginata</i>
Purple Cochoa	<i>Cochoa purpurea</i>
Green Cochoa	<i>Cochoa viridis</i>
Rufous-chinned Laughingthrush	<i>Garrulax rufogularis</i>
Rusty-cheeked Scimitar-babbler	<i>Pomatorhinus erythrogenys</i>
Rufous-capped Babbler	<i>Stachyris ruficeps</i>
White-hooded Babbler	<i>Gampsorhynchus rufulus</i>
Nepal Tit-babbler	<i>Alcippe nipalensis</i>
Black-chinned Yuhina	<i>Yuhina nigrimenta</i>
Grey-headed Parrotbill	<i>Paradoxornis gularis</i>
Rufous-headed Parrotbill	<i>Paradoxornis ruficeps</i>
Pale-footed Bush-warbler	<i>Cettia pallidipes</i>
Grey-headed Flycatcher-warbler	<i>Seicercus xanthoschistos</i>
Black-throated Sunbird	<i>Aethopyga saturata</i>

OTHER KEY FAUNA

Besides the Asiatic Elephant *Elephas maximus*, Mahananda has its usual complements of large mammals such as the Tiger *Panthera tigris*, and Leopard *P. pardus*. Himalayan Serow *Capricornis thar* is present in Chawa, Andhera and Upper Ghoramara forest blocks, where occasionally Asiatic Black Bear *Ursus thibetanus* is sighted. In the Moist Deciduous Forest on the lower reaches, Gaur *Bos gaurus* is quite common, especially in Sevoke and Laltong blocks. Chital or Spotted Deer *Axis axis*, otherwise uncommon in north West Bengal, is common in Sevoke block and plantation areas, while Sambar *Rusa unicolor* is more widespread and found in all parts of the Sanctuary. A species worth mentioning is the Clouded Leopard *Neofelis nebulosa*, a feline seldom seen but likely to be present in this area as the habitat is suitable. Among the primates, five Hoolock Gibbon *Hylobates hoolock* were introduced in 1965, but they died out (Anon., undated).

LAND USE

- Agriculture
- Aquaculture/Fisheries
- Military establishment
- Nature Conservation and Research
- Tourism and Recreation
- Water management

THREATS AND CONSERVATION ISSUES

- Poaching
- Illegal felling of trees
- Agricultural intensification
- Forest fires
- Grazing
- Logging
- Road and rail transport

Poaching is a serious problem, mainly due to the fact that the Sanctuary is easily accessible in the southern part. National Highway-31 passes through the Sanctuary, and there are numerous villages along the highway. Timber smuggling to provide raw material to numerous saw mills in nearby Siliguri town is another problem which the authorities face all the time. Grazing, a persistent problem of many sanctuaries in India, is quite severe here also. A large number of cows can be seen on the roads going towards the Sanctuary. During the summer, villagers set fire to promote fresh growth of grass. This coincides with the breeding season of many ground-nesting birds (pheasants, quails, francolins, larks) and does obvious damage.

There is a plan to widen the National Highway into an eight lane road. The Indian Railway plans to convert the existing metre-gauge track between Siliguri and Guwahati to broad-gauge, and also increase the frequency of trains. This would affect the Sanctuary adversely. Accidental killing of Asiatic Elephant from speeding trains is a regular feature.



DHRTIMAN MUKHERJEE

Mahananda WLS, like many PAs/IBAs serve as catchment for rivers and streams. This Sanctuary was declared mainly to protect the lower catchment of Mahananda River. It has Dry Deciduous, Semi-evergreen and Wet Temperate forests



DRITIMAN MUKHERJEE

BirdLife of Mahananda WLS is very rich with many Globally Threatened species such as Slender-billed Vulture *Gyps tenuirostris* and Vulnerable Rufous-necked Hornbill *Aceros nipalensis*

Many a times, vultures feeding on animal carcasses besides the rail tracks are also killed.

A natural danger, aggravated by human settlements and highways, is the continuous erosion by the Teesta River. Teesta as it flows along the forestland makes meandering channels and the down current is so heavy that it erodes away huge tracts of land every year. The Sanctuary has already lost large tracts of forestland to the river water.

KEY CONTRIBUTOR

Peter Lobo

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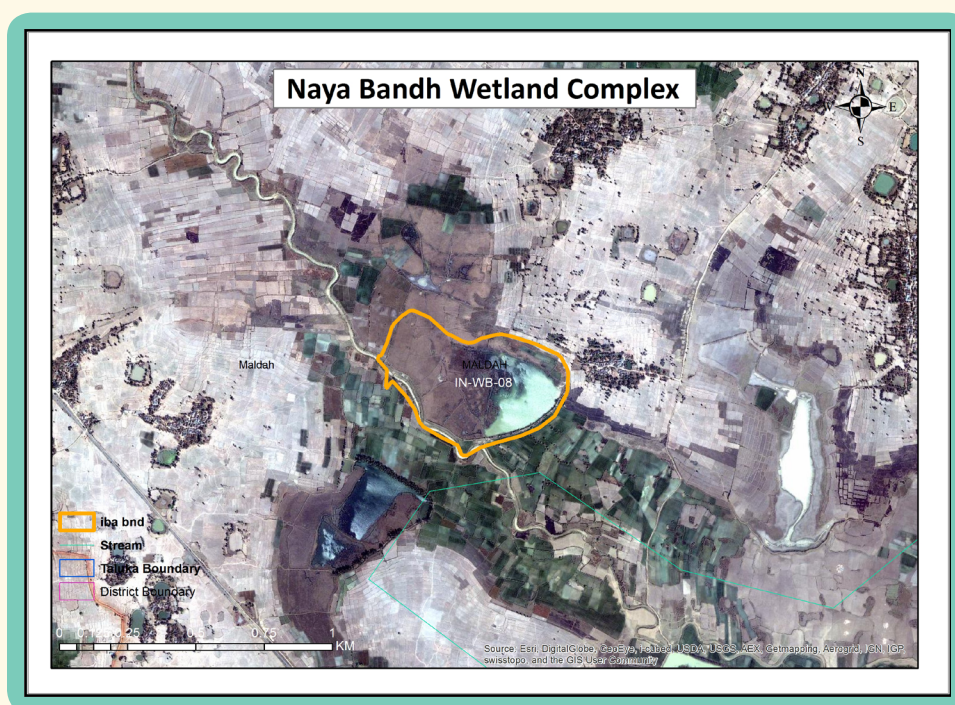
NAYA BANDH WETLAND COMPLEX

IN-WB-08

IBA Site code	: IN-WB-08	Altitude	: 30–35 msl
State	: West Bengal	Rainfall	: 1,500 cm
District	: Malda	Temperature	: 8 °C to 40 °C
Coordinates	: 24° 55' 00" N, 88° 19' 60" E	Biogeographic Zone	: Gangetic Plain
Ownership	: Mixed, Government, Private	Habitats	: Freshwater Swamp, Tropical Secondary Scrub
Area	: 400 ha		

IBA CRITERIA: A1 (Threatened species)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

The Naya Bandh area extends from the Indo-Bangla border to Naya Bandh Beel. It is a low lying area which includes several seasonal wetlands, mainly Chalka, Bakla, Vikon, Morkatta, Mona and Sirishdang. These distinct wetlands together form the Naya Bandh wetland complex. The wetland complex depends on two rivers, namely the Tangon and Purarbhaha. During the monsoon, the area gets connected with the River Punarbhaha and gets flooded. After the monsoon, the water recedes and several small wetlands develop, with a rich variety of aquatic vegetation. There is a small monoculture plantation of *Barringtonia acutangula* at the Bangladesh border.

AVIFAUNA

About 150 species of birds have been identified in this IBA (S. Jha, *pers. comm.* 2003), of which seven are globally

threatened, four Near Threatened, and 11 biome-restricted species. Among the thousands of other ducks, about 140 Ferruginous Duck *Aythya nyroca* were seen in January 2003 (Anon. 2003). Wetlands International (2012) estimate its 1% population threshold as 100.. It is also very common in the Tibetan Plateau (Birdlife International 2001). About 70,000 individuals spend the winter in a large wetland habitat locally called *hoars* in northeast Bangladesh. However, BirdLife International (2001) still keeps it in the Near Threatened category, as the population is declining, mainly due to hunting and drainage of its wetland habitats.

This site lies in Biome-11 (Indo-Malayan Tropical Dry Zone). BirdLife International (undated) has listed 59 species in this biome, of which 11 have been found here. Most of the birds listed are quite common and presently of not much conservation concern.

Despite the fact that this site has seven species considered



ASAD R. RAHMANI

Naya Bandh wetland complex consist of numerous seasonal wetlands where large number of wetland-dependent birds such as Asian Openbill *Anastomus oscitans* are found, sometimes in thousands. With better protection of the habitat, more birds are likely to be found in this vast complex of wetlands

CRITICALLY ENDANGERED

White-rumped Vulture	<i>Gyps bengalensis</i>
Long-billed Vulture	<i>Gyps indicus</i>
Baer's Pochard	<i>Aythya baeri</i>

ENDANGERED

Black-bellied Tern	<i>Sterna acuticauda</i>
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VULNERABLE

Lesser Adjutant	<i>Leptoptilos javanicus</i>
Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>
Greater Spotted Eagle	<i>Aquila clanga</i>

NEAR THREATENED

Oriental Darter	<i>Anhinga melanogaster</i>
Black-headed Ibis	<i>Threskiornis melanocephalus</i>
Ferruginous Duck	<i>Aythya nyroca</i>
Pallid Harrier	<i>Circus macrourus</i>

globally threatened, none of them have significant populations in this IBA. White-rumped *Gyps bengalensis* and Long-billed *G. indicus* vultures have almost disappeared with practically no sighting during last ten years. Similar is the case with Pallas's Fish-eagle *Haliaeetus leucoryphus*. Naya Bandh is designated as an IBA for its value as a waterfowl habitat. If proper protection is provided, the Naya Bandh wetlands could easily host more than 20,000 waterfowl.

LAND USE

- Fishing
- Grazing
- Agriculture
- Reed gathering and Fuel wood collection
- Forestry operation

THREATS AND CONSERVATION ISSUES

- Aquaculture
- Hunting of birds
- Excessive reed gathering
- Land reclamation
- Use of pesticide in nearby agricultural fields

The area is unprotected, and thousands of ducks are killed annually by the tribals. However, the long-term threat is the government plan to drain a part of the area under the Wasteland Reclamation Programme. The land would be distributed to the local landless people for cultivation. Excessive reed gathering is also destroying the habitat of wet-grassland- dependent bird species such as the Striated Grassbird *Megalurus palustris*.

KEY CONTRIBUTOR

Samiran Jha.

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SINGHALILA NATIONAL PARK

IN-WB-09

IBA Site code	: IN-WB-09	Rainfall	: Not available
State	: West Bengal	Temperature	: Not available
District	: Darjeeling	Biogeographic Zone	: Himalaya
Coordinates	: 27° 08' 39" N, 88° 02' 10" E	Habitats	: Montane Wet Temperate Forest, Sub-tropical Broadleaf Hill, Sub-alpine Dry Scrub, Sub-alpine Forest
Ownership	: State		
Area	: 7,860 ha		
Altitude	: 2,600–3,650 msl		

IBA CRITERIA: A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalayas)

PROTECTION STATUS: National Park, established in May 1986.



GENERAL DESCRIPTION

The Singhalila National Park (SNP), situated at the northwestern border of Darjeeling district qualifies as an IBA because it harbours many endemic and threatened bird species. Climatically, this IBA is moist temperate, and parts of it lie within temperate to alpine zones.

On the northern side, the Park is contiguous with the forests of Sikkim, while to the south, there are reserve forest corridors. If these are restored, the IBA would be connected to the Senchal Wildlife Sanctuary near Darjeeling town. On the western side, there is contiguity with the forests in Nepal, though the areas are very small.

Forest types include Wet Temperate Forests at altitudes 2,500-2,800 m which are dominated by *Quercus* sp; Moist Temperate Forests in the 2,850-3,600 m range which include species such as *Quercus pachyphylla*, *Betula utilis*,

Castanopsis tribuloides, *Tsuga brunniona*, *Rhododendron* sp. and an understorey of ringal bamboo; Subalpine Forests in the 3,000-3,650 m range which include species like *Abies densa*, *Betula utilis* and *Rhododendron* sp. (S. Khaling, *in litt.* 2003).

The forests of Singhalila are reported to be floristically very rich. *Rhododendron* (13 species), *Magnolia*, orchids, medicinal plants like *Aconitum* sp., *Swertia chirata*, *Rheum* sp., and *Taxus baccata* are some of the important plant species found in the Park. Besides, the forests have a variety of mosses, lichens, mushrooms, tree ferns, climbers and other epiphytic plants (S. Khaling, *in litt.* 2003).

AVIFAUNA

Singhalila is widely known for its bird diversity. Sumit Sen, a respected ornithologist of India, has maintained bird



CHRITIMAN MUKHERJEE

High altitude Singhalila NP on Indo-Nepal border has Montane Wet Tropical and Sub-tropical Broadleaf Forests on the mid-level and Sub-alpine Forest and Sub-alpine Scrub on higher reaches near snow line. It is famous for its bird diversity, with 258 species identified till now

records of Singhalila. According to him, 258 species of birds are reported from Singhalila National Park and its environs. This list includes some unconfirmed records such as Himalyan Monal *Lophophorus impejanus*, Yellow-rumped Honeyguide *Indicator xanthonotus*, Pallid Harrier *Circus macrourus*,

CRITICALLY ENDANGERED

White-rumped Vulture (old record)	<i>Gyps bengalensis</i>
Slender-billed Vulture (old record)	<i>Gyps tenuirostris</i>

VULNERABLE

Greater Spotted Eagle	<i>Clanga clanga</i>
Chestnut-breasted Partridge	<i>Arborophila mandellii</i>
Wood Snipe	<i>Gallinago nemoricola</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Rusty-throated Wren-babbler	<i>Spelaornis badeigularis</i>

NEAR THREATENED

Satyr Tragopan	<i>Tragopan satyra</i>
Himalayan Vulture	<i>Gyps himalayensis</i>
Cinereous Vulture	<i>Aegypius monachus</i>
Pallid Harrier	<i>Circus macrourus</i>
Yellow-rumped Honeyguide	<i>Indicator xanthonotus</i>
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>
Rusty-bellied Shortwing	<i>Brachypteryx hypertyhra</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYAS

Chestnut-breasted Hill-partridge	<i>Arborophila mandellii</i>
Grey Sibia	<i>Heterophasia gracilis</i>

Pale-chinned Flycatcher *Cyornis poliogenys* and a few others. Sumit Sen has also listed six out-of-range species from this IBA: Japanese Bush-warbler *Cettia diphone*, Suphur-bellied Warbler *Phylloscopus griseolus*, Scally-bellied Woodpecker *Picus squamatus*, Rusty-throated Wren-babbler *Spelaornis badeigularis*, Rusty-tailed Flycatcher *Muscicapa ruficauda*, and Plain Flowerpecker *Dicaeum minillum*.

Singhalila is most famous for its pheasant species such as the Satyr Tragopan *Tragopan satyra*, Black-backed Kaleej Pheasant *Lophura leucomelanos*, Blood Pheasant *Ithaginis cruentus*, Common Hill-partridge *Arborophila torqueola* and Chestnut or Red-breasted Hill-partridge *Arborophila mandelli*. It has many species of parrotbills, warblers, sunbirds, nuthatches, thrushes and raptors.

On 15 September 2007, Pradhan *et al.* (2012) recorded a Red-necked Phalarope *Phalaropus lobatus* at the Sandakphu Range of the National Park for the first time. It is a widespread wader distributed across Europe, Asia and North America.

Choudhury (2009) noted a pair of Chestnut-breasted Hill-partridge between Tumling and Gairibas on 21 November 2009. The Beautiful Nuthatch *Sitta formosa* is another threatened bird which he saw during his visit to the National Park.



Small forest birds such as Red-tailed Minla *Minla ignotincta* find refuge in such IBAs

Four species of vultures were reported of which two are almost vanished: White-rumped *Gyps bengalensis* and Slender-billed *G. tenuirostris*. However, Himalyan Vulture *Gyps himalayensis* is frequently seen, while Cinereous Vulture *Aegypius monachus* is occasionally seen.

OTHER KEY FAUNA

Some important mammals of the Singhalila National Park are Leopard *Panthera pardus*, Clouded Leopard *Neofelis nebulosa*, Asiatic Black Bear *Ursus thibetanus*, Serow *Nemorhaedus sumatraensis*, Barking Deer *Muntiacus muntjak*, Chinese Pangolin *Manis pentadactyla*, Himalayan Mouse-Hare *Ochotona roylei*, rodents, bats and, possibly, the Wild Dog or Dhole *Cuon alpinus*. The rare Red Panda *Ailurus fulgens* is an important species of the National Park.

LAND USE

- Forestry
- Tourism
- Nature conservation and research

THREATS AND CONSERVATION ISSUES

- Deforestation
- Disturbance to birds
- Collection of firewood
- Grazing
- Tourism recreation
- Shifting cultivation

There are eight villages around the core area of the Singhalila National Park, while six large villages are

located in the buffer zone. As in most forested areas, human settlements in the vicinity of Singhalila are completely dependent on forest resources for sustenance and livelihood. The human communities mainly consist of two ethnic groups—the Nepalese and the Sherpas. They are dependent on the Park for firewood, fodder and to some extent for timber, which they use for construction. Edible plants like mushroom, bamboo shoots, various herbs and other medicinal plants are also seasonally harvested by the communities for subsistence.

Most families in SNP are subsistence farmers mainly growing maize, potatoes, peas and other vegetables. Only a few of them are government employees. Other economic activities include wage labour and tourism-related activities. Most of the villages are remote, without basic amenities like motorable roads, electricity, filtered drinking water facilities, health centres or education facilities.

Communities around Singhalila are already motivated towards participatory conservation. The Singhalila Environment Protection Committee comprising community members of Nepal and India are working actively to reduce the threats of unsustainable harvesting of forest resources. McGowan (2009) has selected the Singhalila National Park as a priority site for the future research and monitoring for the conservation of Galliformes in India.

KEY CONTRIBUTOR

Sarala Khaling, Sumit Sen, Asad R. Rahmani

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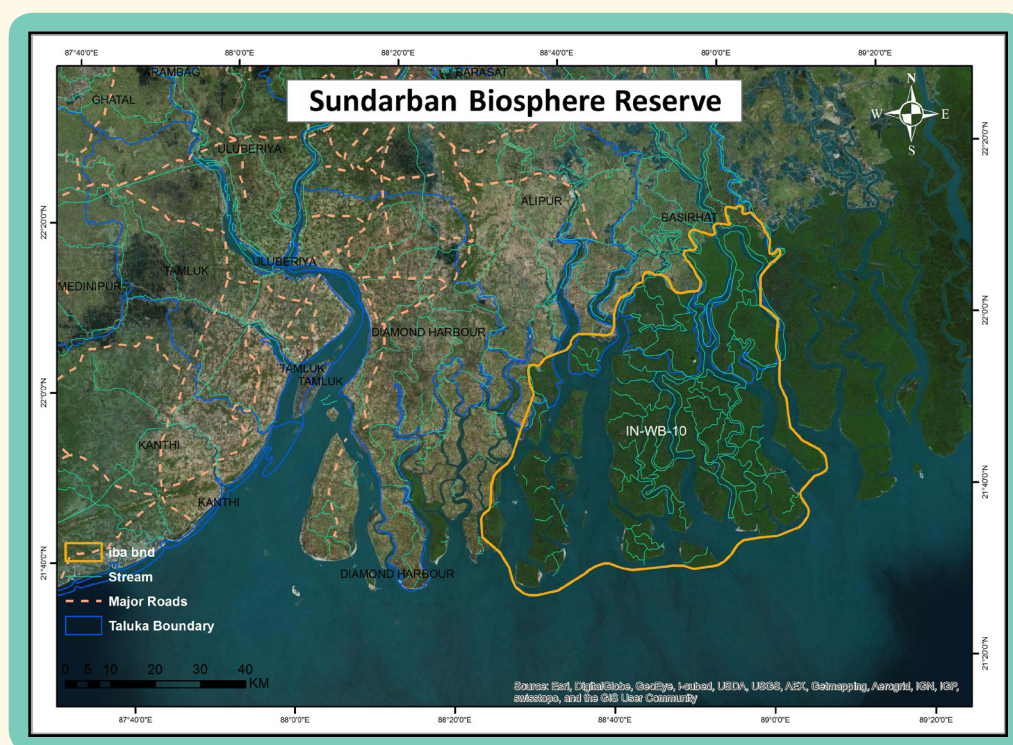
SUNDARBAN BIOSPHERE RESERVE

IN-WB-10

IBA Site code	: IN-WB-10	Altitude	: 0–5 m
State	: West Bengal	Rainfall	: Not available
District	: North and South 24 Parganas	Temperature	: 5 °C to 45 °C
Coordinates	: 21° 10' 46" N, 88° 58' 21" E	Biogeographic Zone	: Coasts
Ownership	: State	Habitats	: Tropical Moist Deciduous Forest, Littoral Forest, Wetland
Area	: 9,63,000 ha		

IBA CRITERIA: A1 (Threatened species) A4iii (20,000 waterbirds)

PROTECTION STATUS: Sundarban Biosphere Reserve declared in 1989 has a total area of 9,63,000 ha. It includes Sundarban Tiger Reserve with an area of 2,58,500 ha established on December 23, 1973; Sundarban National Park (Core area) with an area of 1,33,000 ha and the buffer zone. Sajinakhali Wildlife Sanctuary with an area of 36,234 ha is part of the buffer zone. Declared as a World Heritage Site by UNESCO in 1987.



GENERAL DESCRIPTION

The Sundarban is the delta covered with mangrove forests and vast saline mudflats spread across India and Bangladesh. It got the name from the mangrove plant locally known as Sundari *Heritiera minor*. The Sundarban stretches from the Hooghly (India) on the west to the Meghna (Bangladesh) in the east, both of which are major tributaries of the River Ganga. It spreads over the southern part of three districts, namely 24-Parganas (India), Khulna and Backarganj (Bangladesh). The boundary of Sundarban within West Bengal is demarcated by the Raimangal and Hooghly rivers in the east and west respectively, and the Bay of Bengal in the south. The northern limit cannot be clearly defined due to the progressive reclamation of land.

The Sundarban covers an area of 9,63,000 ha, of which 2,58,500 ha is demarcated as the Sundarban Tiger Reserve and 1,33,000 as the National Park (core area). Sajinakhali Wildlife Sanctuary (36,234 ha) lies within the buffer zone, to the north of Netidhopani and Chadkhali forest blocks. There are two small sanctuaries within the Biosphere Reserve: the 583 ha Halliday Island Wildlife Sanctuary and the 3,885 ha Lothian Island Wildlife Sanctuary.

The Sunderban is the largest mangrove forest, with perhaps the largest tiger population in the world. It is a World Heritage Site and Biosphere Reserve, both in India and Bangladesh. It is also proposed as a Ramsar site (Islam and Rahmani 2008). This World Heritage site is known for its rich biodiversity, especially fish, crustaceans, reptiles and birds.

The total area of the IBA extends over 4,26,200 ha, of which 2,32,000 ha is under mangrove forest and the remaining is under water (Mukherjee 1975). As reported earlier, *Heritiera minor*, locally known as Sundari (Jain and Sastry 1983) is a predominant feature of the IBA. Champion (1936) classified the Sundarban as Moist Tropical Seral Forest, comprising beach forest and tidal forests. Characteristic species include *Rhizophora* spp., *Bruguiera gymnorhiza*, *Ceriops* sp. and *Avicennia officinalis*. *Heritiera minor* is scattered over areas of higher elevation, along with *Sonneratia apetala*, *Excoecaria agallocha*, and *Phoenix paludosa*. Low mangrove forest (3-6 m high) occurs between Matla and Muriganga to the west of the National Park and Tiger Reserve. This area is devoid of fresh water because its rivers are cut off from the ramifications of the Hooghly in the north. The soft mud of the intertidal zone supports a dense forest, very similar in composition to salt-water *Heritiera* forest.

AVIFAUNA

Till 2009, Sumit Sen had listed 365 species, including some with historical records such as Greater Adjutant *Leptoptilos dubius*, Finn's Baya or Yellow Weaver *Ploceus megarhynchus* and some recently rare species such as White-rumped Vulture *Gyps bengalensis* and Slender-billed Vulture *G. tenuirostris*.

Two species that are of special interest in this IBA are Spoon-billed Sandpiper *Eurynorhynchus pygmeus* and Masked Finfoot *Heliopais personata*. Although there are old confirmed records of Spoon-billed Sandpiper from the east coast of India and recent records from Bangladesh Sundarbans (Rahmani 2012), there is no confirmed record from the Indian Sundarban. In 1998, a rapid survey was undertaken by the BNHS team but no Spoon-billed Sandpiper was seen in the whole east coast (Balachandran 1998). A more recent survey in Sundarbans by Zöckler *et al.* (2005, 2008) also did not reveal any Spoon-billed Sandpiper. However, this does not mean that it is not found in this IBA. As it is regularly seen, albeit in extremely small numbers in the Bangladesh Sundarbans, it is likely to occur on the Indian side also.

Similar is the case of the Masked Finfoot. It is regularly seen and even studied in the Sundarban of Bangladesh (Gani 2005, Neumann-Denzau *et al.* 2008) but there is no confirmed record from the Indian side. This is mainly because no detailed survey of this species has been done in India.

Although the whole of the Sunderban mangrove is a bird watcher's paradise, Sajinakhali Wildlife Sanctuary is best known for its bird life. Mukherjee (1959) found 16 species in a breeding colony, including Oriental Darter *Anhinga melanogaster* and Black-necked Stork *Ephippiorhynchus asiaticus* (both presently Near Threatened).

As can be expected, the Sunderban is famous for its waterbirds and water-dependent birds such as the

CRITICALLY ENDANGERED

Baer's Pochard	<i>Aythya baeri</i>
Spoon-billed Sandpiper (?)	<i>Eurynorhynchus pygmeus</i>

ENDANGERED

Greater Adjutant (old records)	<i>Leptoptilos dubius</i>
White-headed Duck (historical record)	<i>Oxyura leucocephala</i>
Black-bellied Tern	<i>Sterna acuticauda</i>
Masked Finfoot	<i>Heliopais personata</i>
Great Knot	<i>Calidris tenuirostris</i>

VULNERABLE

Swamp Francolin (historical record)	<i>Francolinus gularis</i>
Asian Woollyneck	<i>Ciconia episcopus</i>
Lesser Adjutant	<i>Leptoptilos javanicus</i>
Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>
Greater Spotted Eagle	<i>Clanga clanga</i>
Indian Spotted Eagle	<i>Aquila hastata</i>

NEAR THREATENED

Jouanin's Petrel	<i>Bulweria fallax</i>
Oriental Darter	<i>Anhinga melanogaster</i>
Painted Stork	<i>Mycteria leucocephala</i>
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>
Black-headed Ibis	<i>Threskiornis melanocephalus</i>
Ferruginous Duck	<i>Aythya nyroca</i>
Pallid Harrier	<i>Circus macrourus</i>
Red-headed Falcon	<i>Falco chicquera</i>
Great Thick-knee	<i>Esacus recurvirostris</i>
River Lapwing	<i>Vanellus duvaucelii</i>
Eurasian Curlew	<i>Numenius arquata</i>
Black-tailed Godwit	<i>Limosa limosa</i>
Asian Dowitcher	<i>Limnodromus semipalmatus</i>
River Tern	<i>Sterna aurantia</i>
Brown-winged Kingfisher	<i>Pelargopsis amauroptera</i>
Mangrove Pitta	<i>Pitta megarhyncha</i>

kingfishers. Out of the 12 kingfisher species found in India, nine are found in this IBA, including the Common *Alcedo atthis*, Brown-winged *Halcyon amauroptera*, Stork-billed *Halcyon capensis*, Ruddy *Halcyon coromanda*, White-throated *Halcyon smyrnensis*, Black-capped *Halcyon pileata*, Collared *Todiramphus chloris* and Pied *Ceryle rudis* Kingfishers. About 30 species of small waders (sandpipers, stints, plovers, curlews, etc.) and nine species of gulls and terns are found here.

The Sunderban is one of the two sites where the Mangrove Whistler *Pachycephala grisola* is definitely found. This species is not considered threatened by BirdLife International (2001) as it is widely distributed in south and southeast Asia. But its narrow, ribbon-like habitat along the coasts that is under tremendous human pressure all over Asia would put this species at risk in the future. Incidentally, this is the only bird species that is entirely restricted to mangroves (Ali and Ripley 1987, Grimmett *et al.* 2011).

Praveen (2007) mentions about sighting a Eurasian Hobby *Falco subbuteo* from the southern tip of the Indian



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It is a cliché to say that Sundarbans is the largest intact mangrove forest in the world. It is a World Heritage Site, Biosphere Reserve, National Park, and an IBA

Sundarban on October 12, 2007. This species is considerably rare in this region and there are very few records from Indian Sunderbans. Sharma and Zöckler (2007) while observing waders and gulls on Haliday Island in the Sunderban delta, West Bengal, sighted one Sooty Gull *Larus hemprichii*. This is the first record of this species from the east coast. Praveen *et al.* (2014) has included this bird in Indian rarities.

Mangrove Pitta *Pitta megarhyncha* was confirmed for the first time from the Indian Sundarban. A local boatman rescued a bird and showed it to Chatterjee (2013), who immediately identified it as Mangrove Pitta. This is the first photographic evidence of this species from India as Rasmussen and Anderton (2012) restricts the distribution of this bird to Sunderbans, Bangladesh and not India. Since the release of the rescued bird, it was sighted on a number of occasions from Sudhanyakhali watchtower. BirdLife International (2014) identifies this species as Near Threatened as this species is restricted to a highly specialized and restricted habitat, and is therefore likely to have a moderately small global population. It is also suspected to be in moderately rapid decline as a result of habitat loss and degradation.

Another new record of a Near Threatened species from this IBA is of Jouanin's Petrel *Bulweria fallax*. Prasad (2013) recorded a single Jouanin's Petrel near Dobanki, Sunderbans, West Bengal on July 28, 2013. This is the first record of this

species from the eastern coast of India. This species is listed as Near Threatened because it is suspected to have a moderately small range (BirdLife International 2014).

The vast Sunderban mangroves and mudflats host hundreds of thousands of waterbirds, especially waders hence this site easily qualifies under A4iii criteria. This site is selected only on the basis of the presence of globally threatened species (A1 criteria).

OTHER KEY FAUNA

Although seldom seen, the Tiger *Panthera tigris* is the star attraction of the Sunderban. The Sunderban also has the largest population of the Estuarine Crocodile *Crocodylus porosus*. A hundred years ago the Sundarban Forests were home to many wild animals, including the Javan Rhinoceros *Rhinoceros sondaicus*, Swamp Deer *Cervus duvauceli*, and Wild Buffalo *Bubalus arnee*. It is said that Barking Deer *Muntiacus muntjak* existed on these swamp islands, but it has not been recorded in the recent years from the Sundarban Forests that lie in West Bengal.

LAND USE

- Nature conservation
- Fisheries
- Tourism

THREATS AND CONSERVATION ISSUES

- Erosion
- Large-scale prawn farming
- Fishing
- Collection of firewood
- Poaching
- Tourism
- Encroachment

Despite its status as a World Heritage Site, Biosphere Reserve, Tiger Reserve, National Park and Wildlife Sanctuary, the Sunderban suffers from many anthropogenic problems. Illegal fishing, cutting of mangroves, poaching and encroachment are the biggest chronic threats.

Illegal settlers are causing widespread destruction of mangroves, particularly on Jambu Dweep, the furthestmost of the cluster of islands. The Supreme Court of India has banned human habitation on this island, but over 20,000 people reside here, mostly in a place called Charso Bees. The fishing business here, run mostly by Bangladeshis from Chittagong, records a turnover of about Rs 1.5 billion annually. Many settlers on the island are unaware that fishing in the protected area is prohibited.

Poaching in the Sundarban is a persistent and uncontrollable problem, because thousands of people move in the Reserve all the time. Poachers go mainly for the Tiger and deer.

Unmanaged tourism is another problem for the sensitive ecology of the Sunderban. There are plans to build a large tourist resort on 750 acres of land spread across the five islands of Sagar, Kaikhali, Fraserganj, L-Plot and Jharkhali. A jetty will be built in Kolkata for ferrying tourists to those islands. There will be floatels, water sports and arrangements for excursions to different creeks in the delta. Such a massive project, in the name of 'eco-tourism', would give rise to anthropogenic problems and irreversibly damage the ecology.

KEY CONTRIBUTORS

Sujan Mukherjee and the IBA team

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